

**NEC**

CAN Conformance Certificate

**V850E/PHC3**

32-bit Single-Chip Microcontroller

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**μPD70(F)3485**



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## Introduction

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|              |   |
|--------------|---|
| Readers      | This document is intended for all users of the NEC product $\mu$ PD70(F)3485, who need the CAN Conformance certification for their application.   |
| Purpose      | <p>With this document, the CAN Conformance of the NEC product <math>\mu</math>PD70(F)3485 is certified.</p> <p>The document is released, after the C&amp;S CAN Conformance Test Suite has proven the CAN conformity of the product. NEC has licensed the CAN Conformance Test Suite from C&amp;S, and is authorized by C&amp;S to perform the CAN Conformance certification on their local test suite.</p>  |
| Organization | <p>The CAN Conformance Test certificate is based on the following tests, which have been executed on the C&amp;S CAN Conformance Test Suite:</p> <ul style="list-style-type: none"><li>• ISO Tests according to ISO 16845</li><li>• ISO Bit Timing Tests according to ISO 16845</li></ul> <p>Additionally, NEC is performing the following additional tests, which are extending the certificate, and which are performed as a special customer service (not required for ISO certification):</p> <ul style="list-style-type: none"><li>• Processor Interface Tests</li><li>• Special Processor Interface Tests</li><li>• Robustness Tests</li></ul> <p>The additional tests are subject to be changed or omitted by NEC without further notice.</p>  |
| Legend       | <p>Symbols and notation are used as follows:</p> <p>Weight in data notation : Left is high-order column, right is low order column</p> <p>Active low notation : <math>\overline{\text{xxx}}</math> (pin or signal name is over-scored) or /xxx (slash before signal name)</p> <p>Memory map address: : High order at high stage and low order at low stage</p> <p>Note : Explanation of (Note) in the text</p> <p>Caution : Information requiring particular attention</p> <p>Remark : Supplementary explanation to the text</p> <p>Numeric notation : Binary . . . xxxx or xxxB<br/>Decimal . . . XXXX<br/>Hexadecimal . . . xxxxH or 0x xxxx</p> <p>Prefixes representing powers of 2 (address space, memory capacity)</p> <p>K (kilo) : <math>2^{10} = 1024</math></p> <p>M (mega) : <math>2^{20} = 1024^2 = 1,048,576</math></p> <p>G (giga) : <math>2^{30} = 1024^3 = 1,073,741,824</math></p> |





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# Chapter 1 Certification

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## 1.1 Authentication

NEC Electronics owns a licensed and maintained CAN Conformance Test Suite from C&S. The CAN Conformance Tests are performed by using this CAN Conformance Test Suite. See the Appendix section for the authentication certificate from C&S.

## 1.2 Preamble

This report is also valid for all subsequent versions of the device, including production versions, unless the AFCAN macro itself, its layout (i.e. metal layer fixes) or its interconnection had been functionally changed, herewith causing a re-evaluation necessity and replacement of this report.

The report is also valid for the ROM derivatives of the device, which have the same device number, but without the (F) letter.

## 1.3 Concerned Products and Tested Object

The test was executed on the AFCAN implementation on  $\mu$ PD70(F)3485, DS1.0, which comprises a 2-channel AFCAN interface. For each AFCAN interface, one single channel test (CCT) was applied.

The following products are covered by this CAN Conformance Test, due to identical CAN macro implementations:

$\mu$ PD70(F)3485

The tested products are containing the AFCAN interface version AFCAN 0A10 - V1.

## 1.4 Certification

All executed tests did not show any failures that would indicate any functional errors.

*The AFCAN macro as implemented in the device  $\mu$ PD70(F)3485, DS1.0 (and higher), and all other devices mentioned within the "Concerned Products" sections, are conform to ISO 11898. This has been tested according to ISO 16845. The test cases for ISO certification (ISO) and Bit-Timing (BT) have all been executed successfully.*

*Further, the AFCAN macro as implemented in the device  $\mu$ PD70(F)3485, DS1.0 (and higher), and all other devices mentioned within the "Concerned Products" sections, have been tested with additional Processor Interface (PI), Special (SPI), and Robustness (ROB) tests. These tests are classifying the AFCAN macro to have good stability in their user (processor) interface and on high loaded CAN-Bus applications.*

For details about the executed test cases, see the following pages.

### 2.1 CAN Conformance Test System Overview

The block diagram below illustrates the test setup according to the ISO reference model.

All tests applied to the Implementation Under Test (IUT), which is the tested device, are located on the Lower Tester (LT). The Upper Tester (UT) is represented by device specific software. The UT is responsible for the support of the test sequence, because not all test can be performed by the AFCAN macro autonomously.

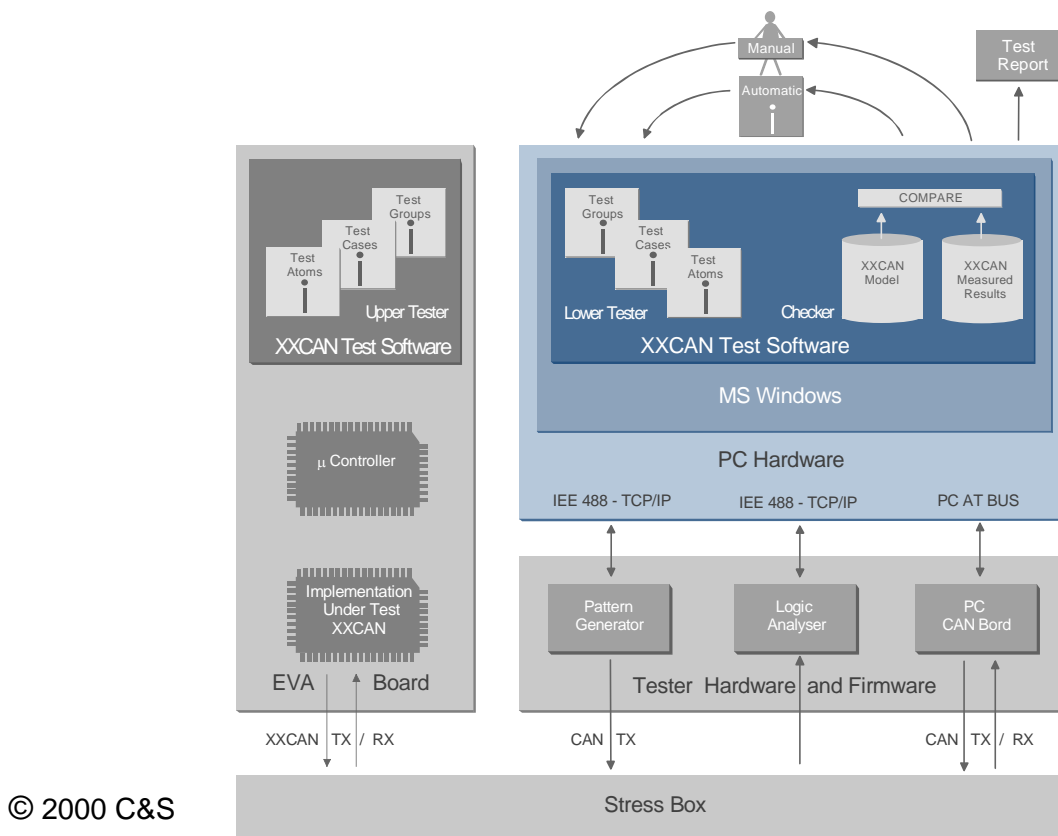


Figure 2-1: CAN Conformance Test System Overview

### 2.2 Test Scopes

There are 3 types of tests that at least need to be applied to verify the correct behavior of the AFCAN macro:

- CAN Conformance Test (CCT): About 600 testcases for the message level test (ISO) and about 250 Bit-Timing (BT) testcases per channel.
- Processor Interface Test (PCIF): 625 tests per channel, standard (PI) and special tests (SPI).
- Robustness Test (ROB): 24 tests per channel, running from 1 hour up to 4 hours per test, including error injection.



### 2.3 CAN Conformance Tests (CCT) according to ISO 16845

The testscope for the CCT is the verification of the CAN protocol. The ISO document defines 150 test items. Each test item comprises several elementary tests that take account to the permutations of the value of message objects (i.e. identifiers, data length codes). The CCT can be divided into message level test and bit timing tests.

#### 2.3.1 Message Level Tests

Message level tests are executed at a baudrate of 100 kBaud. There are 6 test classes defined:

- Valid frame format
- Error detection
- Error frame management
- Overload frame management
- Passive error state
- Error counter management

Every test class is applied for transmitted, received, and remote frames separately leading to a total of about 600 elementary tests.

#### 2.3.2 Bit Timing Tests

The bit timing tests are grouped in a separate test class. Each test needs to be executed individually for wide spectrum of baud rates. For the CAN Conformance Tester from C&S, a dedicated generator creates for selectable baudrates, the set of bit-timing testcases. Within this test, used baudrates are:

- 1000 kbit/s
- 500 kbit/s
- 250 kbit/s
- 200 kbit/s
- 125 kbit/s
- 100 kbit/s

In the course of these tests, numerous permutations of pre-scalar settings versus sample point positions and synchronization settings are applied.

#### 2.3.3 Processor Interface Tests (PCIF)

The second group of tests targets the interaction between the AFCAN macro and the processor. Interrupts, special operating modes (i.e. sleep, stop mode) and the addressing of message buffers including masking of these are checked by the PCIF tests. Every mask is tested individually for each message buffer. For the AFCAN macro in  $\mu$ PD70(F)3485, there are 625 tests available.

#### 2.3.4 Robustness Tests

In order to prove the real-time behavior of the AFCAN, robustness tests needs to be run. These tests penetrate the device with 100% busload for a given time. Substantial tests however require at least 1.000.000 frames, which have been executed. The tests use pseudo random patterns for the generation of message identifiers. The tests are applied with and without error injection.

Robustness tests are executed at the baudrates: 100 kbit/s, 250 kbit/s, 500 kbit/s.

## Chapter 3 IUT Configurations

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### 3.1 Tested Configurations

The device  $\mu$ PD70(F)3485 was tested in the configurations shown in the table below. This means, that for each indicated test set of a configuration, all tests of this test set have been run for all configurations.

**Table 3-1: Configurations of IUT**

| Testsets     | Baudrate <sup>a</sup> | CPU Clock Setting | AFCAN macro clock setting | AFCAN macro channel tested | Port I/O Selection |         |
|--------------|-----------------------|-------------------|---------------------------|----------------------------|--------------------|---------|
|              |                       |                   |                           |                            | Transmit           | Receive |
| ISO, PI, SPI | 100 kbit/s            | 80 MHz<br>PLL     | 16 MHz<br>PLL divided     | 0                          | P0.5               | P0.4    |
|              |                       |                   |                           | 1                          | P0.7               | P0.6    |
| ROB, BT      | variable              |                   |                           | 0                          | P0.5               | P0.4    |
|              |                       |                   |                           | 1                          | P0.7               | P0.6    |

a. "Variable": See "Used Bit Timing Test Settings" on page 41.

All other configuration settings are applied according to the actual User's Manual of  $\mu$ PD70(F)3485.

## Chapter 4 Detailed Test Results

### 4.1 ISO Tests

**Table 4-1: ISO CAN Conformance Test Results**

| Reference   | Name   | CAN Version <sup>a</sup> | Verdict | Comment |
|-------------|--|--------------------------|---------|---------|
| <b>1.</b>   | <b>Receiver Tests</b>  |                          |         |         |
| <b>1.1.</b> | <b>Valid frame format class</b>                              |                          |         |         |
| 1.1.1.1     | Identifier and number of data test in standard format        | A, B, BP                 | Pass    |         |
| 1.1.1.2     | Identifier and number of data test in standard format        | A, B, BP                 | Pass    |         |
| 1.1.1.3     | Identifier and number of data test in standard format        | A, B, BP                 | Pass    |         |
| 1.1.1.4     | Identifier and number of data test in standard format        | A, B, BP                 | Pass    |         |
| 1.1.1.5     | Identifier and number of data test in standard format        | A, B, BP                 | Pass    |         |
| 1.1.1.6     | Identifier and number of data test in standard format        | A, B, BP                 | Pass    |         |
| 1.1.1.7     | Identifier and number of data test in standard format        | A, B, BP                 | Pass    |         |
| 1.1.1.8     | Identifier and number of data test in standard format        | A, B, BP                 | Pass    |         |
| 1.1.1.9     | Identifier and number of data test in standard format        | A, B, BP                 | Pass    |         |
| 1.1.2.1     | Identifier and number of data test in extended format test 1 | B                        | Pass    |         |
| 1.1.2.2     | Identifier and number of data test in extended format test 1 | B                        | Pass    |         |
| 1.1.2.3     | Identifier and number of data test in extended format test 1 | B                        | Pass    |         |
| 1.1.2.4     | Identifier and number of data test in extended format test 1 | B                        | Pass    |         |
| 1.1.2.5     | Identifier and number of data test in extended format test 1 | B                        | Pass    |         |
| 1.1.2.6     | Identifier and number of data test in extended format test 1 | B                        | Pass    |         |
| 1.1.2.7     | Identifier and number of data test in extended format test 1 | B                        | Pass    |         |
| 1.1.2.8     | Identifier and number of data test in extended format test 1 | B                        | Pass    |         |
| 1.1.2.9     | Identifier and number of data test in extended format test 1 | B                        | Pass    |         |
| 1.1.3.1     | Identifier and number of data test in extended format test 2 | BP                       | Pass    |         |
| 1.1.3.2     | Identifier and number of data test in extended format test 2 | BP                       | Pass    |         |
| 1.1.3.3     | Identifier and number of data test in extended format test 2 | BP                       | Pass    |         |
| 1.1.3.4     | Identifier and number of data test in extended format test 2 | BP                       | Pass    |         |
| 1.1.3.5     | Identifier and number of data test in extended format test 2 | BP                       | Pass    |         |
| 1.1.3.6     | Identifier and number of data test in extended format test 2 | BP                       | Pass    |         |

## Chapter 4 Detailed Test Results

**Table 4-1: ISO CAN Conformance Test Results**

|         |   |          |      |                |
|---------|---|----------|------|----------------|
| 1.1.3.7 | Identifier and number of data test in extended format test 2                          | BP       | Pass |                |
| 1.1.3.8 | Identifier and number of data test in extended format test 2                          | BP       | Pass |                |
| 1.1.3.9 | Identifier and number of data test in extended format test 2                          | BP       | Pass |                |
| 1.1.4.  | Acceptance of « r1,r0 » combination non-nominal value in standard format              | A        |      | Not applicable |
| 1.1.5.0 | Acceptance of « IDE,r0 » combination non-nominal value in standard format             | B, BP    | Pass |                |
| 1.1.6.1 | Acceptance of « SRR, r1, r0 » combination non-nominal value in extended format test 1 | B        | Pass |                |
| 1.1.6.2 | Acceptance of « SRR, r1, r0 » combination non-nominal value in extended format test 1 | B        | Pass |                |
| 1.1.6.3 | Acceptance of « SRR, r1, r0 » combination non-nominal value in extended format test 1 | B        | Pass |                |
| 1.1.6.4 | Acceptance of « SRR, r1, r0 » combination non-nominal value in extended format test 1 | B        | Pass |                |
| 1.1.6.5 | Acceptance of « SRR, r1, r0 » combination non-nominal value in extended format test 1 | B        | Pass |                |
| 1.1.6.6 | Acceptance of « SRR, r1, r0 » combination non-nominal value in extended format test 1 | B        | Pass |                |
| 1.1.6.7 | Acceptance of « SRR, r1, r0 » combination non-nominal value in extended format test 1 | B        | Pass |                |
| 1.1.7.1 | Acceptance of « SRR, r1, r0 » combination non-nominal value in extended format test 2 | BP       | Pass |                |
| 1.1.7.2 | Acceptance of « SRR, r1, r0 » combination non-nominal value in extended format test 2 | BP       | Pass |                |
| 1.1.7.3 | Acceptance of « SRR, r1, r0 » combination non-nominal value in extended format test 2 | BP       | Pass |                |
| 1.1.7.4 | Acceptance of « SRR, r1, r0 » combination non-nominal value in extended format test 2 | BP       | Pass |                |
| 1.1.7.5 | Acceptance of « SRR, r1, r0 » combination non-nominal value in extended format test 2 | BP       | Pass |                |
| 1.1.7.6 | Acceptance of « SRR, r1, r0 » combination non-nominal value in extended format test 2 | BP       | Pass |                |
| 1.1.7.7 | Acceptance of « SRR, r1, r0 » combination non-nominal value in extended format test 2 | BP       | Pass |                |
| 1.1.8.1 | DLC greater than 8  | A, B, BP | Pass |                |
| 1.1.8.2 | DLC greater than 8  | A, B, BP | Pass |                |
| 1.1.8.3 | DLC greater than 8  | A, B, BP | Pass |                |
| 1.1.8.4 | DLC greater than 8  | A, B, BP | Pass |                |
| 1.1.8.5 | DLC greater than 8  | A, B, BP | Pass |                |
| 1.1.8.6 | DLC greater than 8  | A, B, BP | Pass |                |
| 1.1.8.7 | DLC greater than 8  | A, B, BP | Pass |                |

## Chapter 4 Detailed Test Results

**Table 4-1: ISO CAN Conformance Test Results**

|             |                                     |          |      |  |
|-------------|-------------------------------------|----------|------|--|
| 1.1.9.1     | Absent bus idle                     | A, B, BP | Pass |  |
| 1.1.9.2     | Absent bus idle                     | A, B, BP | Pass |  |
| 1.1.10.1    | Stuff acceptance test 1             | A, B, BP | Pass |  |
| 1.1.10.2    | Stuff acceptance test 1             | A, B, BP | Pass |  |
| 1.1.10.3    | Stuff acceptance test 1             | A, B, BP | Pass |  |
| 1.1.10.4    | Stuff acceptance test 1             | A, B, BP | Pass |  |
| 1.1.10.5    | Stuff acceptance test 1             | A, B, BP | Pass |  |
| 1.1.10.6    | Stuff acceptance test 1             | A, B, BP | Pass |  |
| 1.1.10.7    | Stuff acceptance test 1             | A, B, BP | Pass |  |
| 1.1.10.8    | Stuff acceptance test 1             | A, B, BP | Pass |  |
| 1.1.10.9    | Stuff acceptance test 1             | A, B, BP | Pass |  |
| 1.1.10.10   | Stuff acceptance test 1             | A, B, BP | Pass |  |
| 1.1.11.1    | Stuff acceptance test 2             | B, BP    | Pass |  |
| 1.1.11.2    | Stuff acceptance test 2             | B, BP    | Pass |  |
| 1.1.11.3    | Stuff acceptance test 2             | B, BP    | Pass |  |
| 1.1.11.4    | Stuff acceptance test 2             | B, BP    | Pass |  |
| 1.1.11.5    | Stuff acceptance test 2             | B, BP    | Pass |  |
| 1.1.11.6    | Stuff acceptance test 2             | B, BP    | Pass |  |
| 1.1.11.7    | Stuff acceptance test 2             | B, BP    | Pass |  |
| 1.1.12.0    | Message validation                  | A, B, BP | Pass |  |
| <b>1.2.</b> | <b><i>Error detection class</i></b> |          |      |  |
| 1.2.1.0     | BIT ERROR in data frame             | A, B, BP | Pass |  |
| 1.2.2.1     | STUFF ERROR test 1                  | A, B, BP | Pass |  |
| 1.2.2.2     | STUFF ERROR test 1                  | A, B, BP | Pass |  |
| 1.2.2.3     | STUFF ERROR test 1                  | A, B, BP | Pass |  |
| 1.2.2.4     | STUFF ERROR test 1                  | A, B, BP | Pass |  |
| 1.2.2.5     | STUFF ERROR test 1                  | A, B, BP | Pass |  |
| 1.2.2.6     | STUFF ERROR test 1                  | A, B, BP | Pass |  |
| 1.2.2.7     | STUFF ERROR test 1                  | A, B, BP | Pass |  |
| 1.2.2.8     | STUFF ERROR test 1                  | A, B, BP | Pass |  |
| 1.2.2.9     | STUFF ERROR test 1                  | A, B, BP | Pass |  |

## Chapter 4 Detailed Test Results

**Table 4-1: ISO CAN Conformance Test Results**

|          |                    |          |      |  |
|----------|--------------------|----------|------|--|
| 1.2.2.10 | STUFF ERROR test 1 | A, B, BP | Pass |  |
| 1.2.2.11 | STUFF ERROR test 1 | A, B, BP | Pass |  |
| 1.2.2.12 | STUFF ERROR test 1 | A, B, BP | Pass |  |
| 1.2.2.13 | STUFF ERROR test 1 | A, B, BP | Pass |  |
| 1.2.2.14 | STUFF ERROR test 1 | A, B, BP | Pass |  |
| 1.2.2.15 | STUFF ERROR test 1 | A, B, BP | Pass |  |
| 1.2.2.16 | STUFF ERROR test 1 | A, B, BP | Pass |  |
| 1.2.2.17 | STUFF ERROR test 1 | A, B, BP | Pass |  |
| 1.2.2.18 | STUFF ERROR test 1 | A, B, BP | Pass |  |
| 1.2.2.19 | STUFF ERROR test 1 | A, B, BP | Pass |  |
| 1.2.2.20 | STUFF ERROR test 1 | A, B, BP | Pass |  |
| 1.2.2.21 | STUFF ERROR test 1 | A, B, BP | Pass |  |
| 1.2.2.22 | STUFF ERROR test 1 | A, B, BP | Pass |  |
| 1.2.2.23 | STUFF ERROR test 1 | A, B, BP | Pass |  |
| 1.2.2.24 | STUFF ERROR test 1 | A, B, BP | Pass |  |
| 1.2.2.25 | STUFF ERROR test 1 | A, B, BP | Pass |  |
| 1.2.2.26 | STUFF ERROR test 1 | A, B, BP | Pass |  |
| 1.2.2.27 | STUFF ERROR test 1 | A, B, BP | Pass |  |
| 1.2.2.28 | STUFF ERROR test 1 | A, B, BP | Pass |  |
| 1.2.2.29 | STUFF ERROR test 1 | A, B, BP | Pass |  |
| 1.2.2.30 | STUFF ERROR test 1 | A, B, BP | Pass |  |
| 1.2.2.31 | STUFF ERROR test 1 | A, B, BP | Pass |  |
| 1.2.2.32 | STUFF ERROR test 1 | A, B, BP | Pass |  |
| 1.2.2.33 | STUFF ERROR test 1 | A, B, BP | Pass |  |
| 1.2.2.34 | STUFF ERROR test 1 | A, B, BP | Pass |  |
| 1.2.2.35 | STUFF ERROR test 1 | A, B, BP | Pass |  |
| 1.2.2.36 | STUFF ERROR test 1 | A, B, BP | Pass |  |
| 1.2.2.37 | STUFF ERROR test 1 | A, B, BP | Pass |  |
| 1.2.2.38 | STUFF ERROR test 1 | A, B, BP | Pass |  |
| 1.2.2.39 | STUFF ERROR test 1 | A, B, BP | Pass |  |
| 1.2.2.40 | STUFF ERROR test 1 | A, B, BP | Pass |  |

## Chapter 4 Detailed Test Results

**Table 4-1: ISO CAN Conformance Test Results**

|          |                    |          |      |  |
|----------|--------------------|----------|------|--|
| 1.2.2.41 | STUFF ERROR test 1 | A, B, BP | Pass |  |
| 1.2.2.42 | STUFF ERROR test 1 | A, B, BP | Pass |  |
| 1.2.2.43 | STUFF ERROR test 1 | A, B, BP | Pass |  |
| 1.2.2.44 | STUFF ERROR test 1 | A, B, BP | Pass |  |
| 1.2.2.45 | STUFF ERROR test 1 | A, B, BP | Pass |  |
| 1.2.2.46 | STUFF ERROR test 1 | A, B, BP | Pass |  |
| 1.2.2.47 | STUFF ERROR test 1 | A, B, BP | Pass |  |
| 1.2.2.48 | STUFF ERROR test 1 | A, B, BP | Pass |  |
| 1.2.2.49 | STUFF ERROR test 1 | A, B, BP | Pass |  |
| 1.2.2.50 | STUFF ERROR test 1 | A, B, BP | Pass |  |
| 1.2.2.51 | STUFF ERROR test 1 | A, B, BP | Pass |  |
| 1.2.2.52 | STUFF ERROR test 1 | A, B, BP | Pass |  |
| 1.2.2.53 | STUFF ERROR test 1 | A, B, BP | Pass |  |
| 1.2.2.54 | STUFF ERROR test 1 | A, B, BP | Pass |  |
| 1.2.2.55 | STUFF ERROR test 1 | A, B, BP | Pass |  |
| 1.2.2.56 | STUFF ERROR test 1 | A, B, BP | Pass |  |
| 1.2.2.57 | STUFF ERROR test 1 | A, B, BP | Pass |  |
| 1.2.2.58 | STUFF ERROR test 1 | A, B, BP | Pass |  |
| 1.2.2.59 | STUFF ERROR test 1 | A, B, BP | Pass |  |
| 1.2.2.60 | STUFF ERROR test 1 | A, B, BP | Pass |  |
| 1.2.2.61 | STUFF ERROR test 1 | A, B, BP | Pass |  |
| 1.2.2.62 | STUFF ERROR test 1 | A, B, BP | Pass |  |
| 1.2.2.63 | STUFF ERROR test 1 | A, B, BP | Pass |  |
| 1.2.3.1  | STUFF ERROR test 2 | B, BP    | Pass |  |
| 1.2.3.2  | STUFF ERROR test 2 | B, BP    | Pass |  |
| 1.2.3.3  | STUFF ERROR test 2 | B, BP    | Pass |  |
| 1.2.3.4  | STUFF ERROR test 2 | B, BP    | Pass |  |
| 1.2.3.5  | STUFF ERROR test 2 | B, BP    | Pass |  |
| 1.2.3.6  | STUFF ERROR test 2 | B, BP    | Pass |  |
| 1.2.3.7  | STUFF ERROR test 2 | B, BP    | Pass |  |
| 1.2.3.8  | STUFF ERROR test 2 | B, BP    | Pass |  |

## Chapter 4 Detailed Test Results

**Table 4-1: ISO CAN Conformance Test Results**

|          |                    |       |      |  |
|----------|--------------------|-------|------|--|
| 1.2.3.9  | STUFF ERROR test 2 | B, BP | Pass |  |
| 1.2.3.10 | STUFF ERROR test 2 | B, BP | Pass |  |
| 1.2.3.11 | STUFF ERROR test 2 | B, BP | Pass |  |
| 1.2.3.12 | STUFF ERROR test 2 | B, BP | Pass |  |
| 1.2.3.13 | STUFF ERROR test 2 | B, BP | Pass |  |
| 1.2.3.14 | STUFF ERROR test 2 | B, BP | Pass |  |
| 1.2.3.15 | STUFF ERROR test 2 | B, BP | Pass |  |
| 1.2.3.16 | STUFF ERROR test 2 | B, BP | Pass |  |
| 1.2.3.17 | STUFF ERROR test 2 | B, BP | Pass |  |
| 1.2.3.18 | STUFF ERROR test 2 | B, BP | Pass |  |
| 1.2.3.19 | STUFF ERROR test 2 | B, BP | Pass |  |
| 1.2.3.20 | STUFF ERROR test 2 | B, BP | Pass |  |
| 1.2.3.21 | STUFF ERROR test 2 | B, BP | Pass |  |
| 1.2.3.22 | STUFF ERROR test 2 | B, BP | Pass |  |
| 1.2.3.23 | STUFF ERROR test 2 | B, BP | Pass |  |
| 1.2.3.24 | STUFF ERROR test 2 | B, BP | Pass |  |
| 1.2.3.25 | STUFF ERROR test 2 | B, BP | Pass |  |
| 1.2.3.26 | STUFF ERROR test 2 | B, BP | Pass |  |
| 1.2.3.27 | STUFF ERROR test 2 | B, BP | Pass |  |
| 1.2.3.28 | STUFF ERROR test 2 | B, BP | Pass |  |
| 1.2.3.29 | STUFF ERROR test 2 | B, BP | Pass |  |
| 1.2.3.30 | STUFF ERROR test 2 | B, BP | Pass |  |
| 1.2.3.31 | STUFF ERROR test 2 | B, BP | Pass |  |
| 1.2.3.32 | STUFF ERROR test 2 | B, BP | Pass |  |
| 1.2.3.33 | STUFF ERROR test 2 | B, BP | Pass |  |
| 1.2.3.34 | STUFF ERROR test 2 | B, BP | Pass |  |
| 1.2.3.35 | STUFF ERROR test 2 | B, BP | Pass |  |
| 1.2.3.36 | STUFF ERROR test 2 | B, BP | Pass |  |
| 1.2.3.37 | STUFF ERROR test 2 | B, BP | Pass |  |
| 1.2.3.38 | STUFF ERROR test 2 | B, BP | Pass |  |
| 1.2.3.39 | STUFF ERROR test 2 | B, BP | Pass |  |



## Chapter 4 Detailed Test Results

**Table 4-1: ISO CAN Conformance Test Results**

|          |                    |       |      |  |
|----------|--------------------|-------|------|--|
| 1.2.3.40 | STUFF ERROR test 2 | B, BP | Pass |  |
| 1.2.3.41 | STUFF ERROR test 2 | B, BP | Pass |  |
| 1.2.3.42 | STUFF ERROR test 2 | B, BP | Pass |  |
| 1.2.3.43 | STUFF ERROR test 2 | B, BP | Pass |  |
| 1.2.3.44 | STUFF ERROR test 2 | B, BP | Pass |  |
| 1.2.3.45 | STUFF ERROR test 2 | B, BP | Pass |  |
| 1.2.3.46 | STUFF ERROR test 2 | B, BP | Pass |  |
| 1.2.3.47 | STUFF ERROR test 2 | B, BP | Pass |  |
| 1.2.3.48 | STUFF ERROR test 2 | B, BP | Pass |  |
| 1.2.3.49 | STUFF ERROR test 2 | B, BP | Pass |  |
| 1.2.3.50 | STUFF ERROR test 2 | B, BP | Pass |  |
| 1.2.3.51 | STUFF ERROR test 2 | B, BP | Pass |  |
| 1.2.3.52 | STUFF ERROR test 2 | B, BP | Pass |  |
| 1.2.3.53 | STUFF ERROR test 2 | B, BP | Pass |  |
| 1.2.3.54 | STUFF ERROR test 2 | B, BP | Pass |  |
| 1.2.3.55 | STUFF ERROR test 2 | B, BP | Pass |  |
| 1.2.3.56 | STUFF ERROR test 2 | B, BP | Pass |  |
| 1.2.3.57 | STUFF ERROR test 2 | B, BP | Pass |  |
| 1.2.3.58 | STUFF ERROR test 2 | B, BP | Pass |  |
| 1.2.3.59 | STUFF ERROR test 2 | B, BP | Pass |  |
| 1.2.3.60 | STUFF ERROR test 2 | B, BP | Pass |  |
| 1.2.3.61 | STUFF ERROR test 2 | B, BP | Pass |  |
| 1.2.3.62 | STUFF ERROR test 2 | B, BP | Pass |  |
| 1.2.3.63 | STUFF ERROR test 2 | B, BP | Pass |  |
| 1.2.3.64 | STUFF ERROR test 2 | B, BP | Pass |  |
| 1.2.3.65 | STUFF ERROR test 2 | B, BP | Pass |  |
| 1.2.3.66 | STUFF ERROR test 2 | B, BP | Pass |  |
| 1.2.3.67 | STUFF ERROR test 2 | B, BP | Pass |  |
| 1.2.3.68 | STUFF ERROR test 2 | B, BP | Pass |  |
| 1.2.3.69 | STUFF ERROR test 2 | B, BP | Pass |  |
| 1.2.3.70 | STUFF ERROR test 2 | B, BP | Pass |  |

## Chapter 4 Detailed Test Results

**Table 4-1: ISO CAN Conformance Test Results**

|             |  |          |      |  |
|-------------|--|----------|------|--|
| 1.2.3.71    | STUFF ERROR test 2   | B, BP    | Pass |  |
| 1.2.3.72    | STUFF ERROR test 2   | B, BP    | Pass |  |
| 1.2.3.73    | STUFF ERROR test 2   | B, BP    | Pass |  |
| 1.2.3.74    | STUFF ERROR test 2   | B, BP    | Pass |  |
| 1.2.3.75    | STUFF ERROR test 2   | B, BP    | Pass |  |
| 1.2.3.76    | STUFF ERROR test 2   | B, BP    | Pass |  |
| 1.2.3.77    | STUFF ERROR test 2   | B, BP    | Pass |  |
| 1.2.3.78    | STUFF ERROR test 2   | B, BP    | Pass |  |
| 1.2.3.79    | STUFF ERROR test 2   | B, BP    | Pass |  |
| 1.2.3.80    | STUFF ERROR test 2   | B, BP    | Pass |  |
| 1.2.3.81    | STUFF ERROR test 2   | B, BP    | Pass |  |
| 1.2.3.82    | STUFF ERROR test 2   | B, BP    | Pass |  |
| 1.2.3.83    | STUFF ERROR test 2   | B, BP    | Pass |  |
| 1.2.4.1     | CRC ERROR test 1   | A, B, BP | Pass |  |
| 1.2.4.2     | CRC ERROR test 1   | A, B, BP | Pass |  |
| 1.2.5.0     | Combination of CRC ERROR and FORM ERROR test               | A, B, BP | Pass |  |
| 1.2.6.0     | FORM ERROR in data frame test 1                            | A, B, BP | Pass |  |
| 1.2.7.0     | FORM ERROR in data frame test 2                            | A, B, BP | Pass |  |
| 1.2.8.1     | FORM ERROR in data frame test 3                            | A, B, BP | Pass |  |
| 1.2.8.2     | FORM ERROR in data frame test 3                            | A, B, BP | Pass |  |
| 1.2.8.3     | FORM ERROR in data frame test 3                            | A, B, BP | Pass |  |
| 1.2.9.0     | Message non-validation                                     | A, B, BP | Pass |  |
| <b>1.3.</b> | <b><i>Error frame management class</i></b>                 |          |      |  |
| 1.3.1.1     | ERROR FLAG longer than 6 bits                              | A, B, BP | Pass |  |
| 1.3.1.2     | ERROR FLAG longer than 6 bits                              | A, B, BP | Pass |  |
| 1.3.1.3     | ERROR FLAG longer than 6 bits                              | A, B, BP | Pass |  |
| 1.3.2.0     | Data frame starting on the third bit of intermission field | A, B, BP | Pass |  |
| 1.3.3.1     | BIT ERROR in ERROR FLAG                                    | A, B, BP | Pass |  |
| 1.3.3.2     | BIT ERROR in ERROR FLAG                                    | A, B, BP | Pass |  |
| 1.3.3.3     | BIT ERROR in ERROR FLAG                                    | A, B, BP | Pass |  |
| 1.3.4.1     | FORM ERROR in ERROR DELIMITER                              | A, B, BP | Pass |  |

## Chapter 4 Detailed Test Results

**Table 4-1: ISO CAN Conformance Test Results**

|             |   |          |      |  |
|-------------|---|----------|------|--|
| 1.3.4.2     | FORM ERROR in ERROR DELIMITER   | A, B, BP | Pass |  |
| 1.3.4.3     | FORM ERROR in ERROR DELIMITER   | A, B, BP | Pass |  |
| <b>1.4.</b> | <b><i>Overload frame management class</i></b>                               |          |      |  |
| 1.4.1.1     | MAC overload generation during intermission field following a data frame    | A, B, BP | Pass |  |
| 1.4.1.2     | MAC overload generation during intermission field following a data frame    | A, B, BP | Pass |  |
| 1.4.2.0     | Last bit of EOF   | A, B, BP | Pass |  |
| 1.4.3.1     | Eighth bit of an ERROR and OVERLOAD DELIMITER                               | A, B, BP | Pass |  |
| 1.4.3.2     | Eighth bit of an ERROR and OVERLOAD DELIMITER                               | A, B, BP | Pass |  |
| 1.4.4.1     | BIT ERROR in OVERLOAD FLAG  | A, B, BP | Pass |  |
| 1.4.4.2     | BIT ERROR in OVERLOAD FLAG  | A, B, BP | Pass |  |
| 1.4.4.3     | BIT ERROR in OVERLOAD FLAG  | A, B, BP | Pass |  |
| 1.4.5.1     | FORM ERROR in OVERLOAD DELIMITER  | A, B, BP | Pass |  |
| 1.4.5.2     | FORM ERROR in OVERLOAD DELIMITER  | A, B, BP | Pass |  |
| 1.4.5.3     | FORM ERROR in OVERLOAD DELIMITER  | A, B, BP | Pass |  |
| 1.4.6.1_CS  | MAC overload generation during intermission field following an error frame  | A, B, BP | Pass |  |
| 1.4.6.2_CS  | MAC overload generation during intermission field following an error frame  | A, B, BP | Pass |  |
| 1.4.7.1_CS  | MAC overload generation during intermission field following an overl. frame | A, B, BP | Pass |  |
| 1.4.7.2_CS  | MAC overload generation during intermission field following an overl. frame | A, B, BP | Pass |  |
| <b>1.5.</b> | <b><i>Passive error state class</i></b>                                     |          |      |  |
| 1.5.1.1     | Passive ERROR FLAG completion test 1  | A, B, BP | Pass |  |
| 1.5.1.2     | Passive ERROR FLAG completion test 1  | A, B, BP | Pass |  |
| 1.5.1.3     | Passive ERROR FLAG completion test 1  | A, B, BP | Pass |  |
| 1.5.2.0     | Data frame acceptance after passive ERROR FRAME TRANSMISSION                | A, B, BP | Pass |  |
| 1.5.3.1     | Acceptance of 7 consecutive dominant bits after PASSIVE ERROR FLAG          | A, B, BP | Pass |  |
| 1.5.3.2     | Acceptance of 7 consecutive dominant bits after PASSIVE ERROR FLAG          | A, B, BP | Pass |  |
| 1.5.3.3     | Acceptance of 7 consecutive dominant bits after PASSIVE ERROR FLAG          | A, B, BP | Pass |  |
| 1.5.4.0     | 'error passive' state unchanged on further errors                           | A, B, BP | Pass |  |
| 1.5.5.1     | Passive ERROR FLAG completion test 2  | A, B, BP | Pass |  |

## Chapter 4 Detailed Test Results

**Table 4-1: ISO CAN Conformance Test Results**

|             |   |          |      |            |
|-------------|---|----------|------|------------|
| 1.5.5.2     | Passive ERROR FLAG completion test 2                        | A, B, BP | Pass |            |
| 1.5.5.3     | Passive ERROR FLAG completion test 2                        | A, B, BP | Pass |            |
| 1.5.6.1     | FORM ERROR in passive ERROR DELIMITER                       | A, B, BP | Pass |            |
| 1.5.6.2     | FORM ERROR in passive ERROR DELIMITER                       | A, B, BP | Pass |            |
| 1.5.6.3     | FORM ERROR in passive ERROR DELIMITER                       | A, B, BP | Pass |            |
| 1.5.7.0_CS  | Transition from Active to Passive ERROR FLAG                | A, B, BP | Pass | C&S Add-on |
| <b>1.6.</b> | <b><i>Error counter management class</i></b>                |          |      |            |
| 1.6.1.1     | REC increment on BIT ERROR in ACTIVE ERROR FLAG             | A, B, BP | Pass |            |
| 1.6.1.2     | REC increment on BIT ERROR in ACTIVE ERROR FLAG             | A, B, BP | Pass |            |
| 1.6.1.3     | REC increment on BIT ERROR in ACTIVE ERROR FLAG             | A, B, BP | Pass |            |
| 1.6.2.1     | REC increment on BIT ERROR in OVERLOAD FLAG                 | A, B, BP | Pass |            |
| 1.6.2.2     | REC increment on BIT ERROR in OVERLOAD FLAG                 | A, B, BP | Pass |            |
| 1.6.2.3     | REC increment on BIT ERROR in OVERLOAD FLAG                 | A, B, BP | Pass |            |
| 1.6.3.0     | REC increment when active ERROR FLAG is longer than 13 bits | A, B, BP | Pass |            |
| 1.6.4.0     | REC increment when OVERLOAD FLAG is longer than 13 bits     | A, B, BP | Pass |            |
| 1.6.5.0     | REC increment on BIT ERROR in the ACK field                 | A, B, BP | Pass |            |
| 1.6.6.0     | REC increment on Form Error in a frame                      | A, B, BP | Pass |            |
| 1.6.7.0     | REC increment on FORM ERROR at ACK DELIMITER                | A, B, BP | Pass |            |
| 1.6.8.1     | REC increment on FORM ERROR in EOF Field                    | A, B, BP | Pass |            |
| 1.6.8.2     | REC increment on FORM ERROR in EOF Field                    | A, B, BP | Pass |            |
| 1.6.8.3     | REC increment on FORM ERROR in EOF Field                    | A, B, BP | Pass |            |
| 1.6.9.1     | REC increment on STUFF ERROR                                | A, B, BP | Pass |            |
| 1.6.9.2     | REC increment on STUFF ERROR                                | A, B, BP | Pass |            |
| 1.6.9.3     | REC increment on STUFF ERROR                                | A, B, BP | Pass |            |
| 1.6.9.4     | REC increment on STUFF ERROR                                | A, B, BP | Pass |            |
| 1.6.9.5     | REC increment on STUFF ERROR                                | A, B, BP | Pass |            |
| 1.6.9.6     | REC increment on STUFF ERROR                                | A, B, BP | Pass |            |
| 1.6.9.7     | REC increment on STUFF ERROR                                | A, B, BP | Pass |            |
| 1.6.9.8     | REC increment on STUFF ERROR                                | A, B, BP | Pass |            |
| 1.6.10.0    | REC increment on CRC ERROR                                  | A, B, BP | Pass |            |

## Chapter 4 Detailed Test Results

**Table 4-1: ISO CAN Conformance Test Results**

|             |   |   |      |  |
|-------------|---|---|------|--|
| 1.6.11.0    | REC increment on dominant bit after end of ERROR FLAG         | A, B, BP  | Pass |  |
| 1.6.12.1    | REC increment on FORM ERROR in ERROR DELIMITER                | A, B, BP  | Pass |  |
| 1.6.12.2    | REC increment on FORM ERROR in ERROR DELIMITER                | A, B, BP  | Pass |  |
| 1.6.13.1    | REC increment on FORM ERROR in OVERLOAD DELIMITER             | A, B, BP  | Pass |  |
| 1.6.13.2    | REC increment on FORM ERROR in OVERLOAD DELIMITER             | A, B, BP  | Pass |  |
| 1.6.14.0    | REC decrement on valid frame reception                        | A, B, BP  | Pass |  |
| 1.6.15.0    | REC decremented on valid frame reception during passive state | A, B, BP  | Pass |  |
| 1.6.16.0    | REC non-increment on last bit of EOF field                    | A, B, BP  | Pass |  |
| 1.6.17.0    | REC non-increment on 13-bit length OVERLOAD FLAG              | A, B, BP  | Pass |  |
| 1.6.18.0    | REC non-increment on 13-bit length ERROR FLAG                 | A, B, BP  | Pass |  |
| 1.6.19.0    | REC non-increment on last bit of Error Delimiter              | A, B, BP  | Pass |  |
| 1.6.20.0    | REC non-increment on last bit of Overload Delimiter           | A, B, BP  | Pass |  |
| <b>1.7.</b> | <b><i>Bit timing class</i></b>                                | See 4.2.1 on page 41 :<br>Generation of Bit Timing Test Atoms |      |  |
|             |   |   |      |  |
| <b>2.</b>   | <b>Transmitter Tests</b>                                      |   |      |  |
| <b>2.1.</b> | <b><i>Valid frame format class</i></b>                        |   |      |  |
| 2.1.1.1     | Identifier and number of data bytes test in standard format   | A, B, BP  | Pass |  |
| 2.1.1.2     | Identifier and number of data bytes test in standard format   | A, B, BP  | Pass |  |
| 2.1.1.3     | Identifier and number of data bytes test in standard format   | A, B, BP  | Pass |  |
| 2.1.1.4     | Identifier and number of data bytes test in standard format   | A, B, BP  | Pass |  |
| 2.1.1.5     | Identifier and number of data bytes test in standard format   | A, B, BP  | Pass |  |
| 2.1.1.6     | Identifier and number of data bytes test in standard format   | A, B, BP  | Pass |  |
| 2.1.1.7     | Identifier and number of data bytes test in standard format   | A, B, BP  | Pass |  |
| 2.1.1.8     | Identifier and number of data bytes test in standard format   | A, B, BP  | Pass |  |
| 2.1.1.9     | Identifier and number of data bytes test in standard format   | A, B, BP  | Pass |  |
| 2.1.2.1     | Identifier and number of data bytes test in extended format   | B   | Pass |  |
| 2.1.2.2     | Identifier and number of data bytes test in extended format   | B   | Pass |  |
| 2.1.2.3     | Identifier and number of data bytes test in extended format   | B   | Pass |  |
| 2.1.2.4     | Identifier and number of data bytes test in extended format   | B   | Pass |  |
| 2.1.2.5     | Identifier and number of data bytes test in extended format   | B   | Pass |  |

## Chapter 4 Detailed Test Results

**Table 4-1: ISO CAN Conformance Test Results**

|          |   |          |      |  |
|----------|---|----------|------|--|
| 2.1.2.6  | Identifier and number of data bytes test in extended format | B        | Pass |  |
| 2.1.2.7  | Identifier and number of data bytes test in extended format | B        | Pass |  |
| 2.1.2.8  | Identifier and number of data bytes test in extended format | B        | Pass |  |
| 2.1.2.9  | Identifier and number of data bytes test in extended format | B        | Pass |  |
| 2.1.3.1  | Arbitration in standard format frame                        | A, B, BP | Pass |  |
| 2.1.3.2  | Arbitration in standard format frame                        | A, B, BP | Pass |  |
| 2.1.3.3  | Arbitration in standard format frame                        | A, B, BP | Pass |  |
| 2.1.3.4  | Arbitration in standard format frame                        | A, B, BP | Pass |  |
| 2.1.3.5  | Arbitration in standard format frame                        | A, B, BP | Pass |  |
| 2.1.3.6  | Arbitration in standard format frame                        | A, B, BP | Pass |  |
| 2.1.3.7  | Arbitration in standard format frame                        | A, B, BP | Pass |  |
| 2.1.3.8  | Arbitration in standard format frame                        | A, B, BP | Pass |  |
| 2.1.3.9  | Arbitration in standard format frame                        | A, B, BP | Pass |  |
| 2.1.3.10 | Arbitration in standard format frame                        | A, B, BP | Pass |  |
| 2.1.3.11 | Arbitration in standard format frame                        | A, B, BP | Pass |  |
| 2.1.3.12 | Arbitration in standard format frame                        | A, B, BP | Pass |  |
| 2.1.4.1  | Arbitration in extended format frame test                   | B        | Pass |  |
| 2.1.4.2  | Arbitration in extended format frame test                   | B        | Pass |  |
| 2.1.4.3  | Arbitration in extended format frame test                   | B        | Pass |  |
| 2.1.4.4  | Arbitration in extended format frame test                   | B        | Pass |  |
| 2.1.4.5  | Arbitration in extended format frame test                   | B        | Pass |  |
| 2.1.4.6  | Arbitration in extended format frame test                   | B        | Pass |  |
| 2.1.4.7  | Arbitration in extended format frame test                   | B        | Pass |  |
| 2.1.4.8  | Arbitration in extended format frame test                   | B        | Pass |  |
| 2.1.4.9  | Arbitration in extended format frame test                   | B        | Pass |  |
| 2.1.4.10 | Arbitration in extended format frame test                   | B        | Pass |  |
| 2.1.4.11 | Arbitration in extended format frame test                   | B        | Pass |  |
| 2.1.4.12 | Arbitration in extended format frame test                   | B        | Pass |  |
| 2.1.4.13 | Arbitration in extended format frame test                   | B        | Pass |  |
| 2.1.4.14 | Arbitration in extended format frame test                   | B        | Pass |  |
| 2.1.4.15 | Arbitration in extended format frame test                   | B        | Pass |  |

## Chapter 4 Detailed Test Results

**Table 4-1: ISO CAN Conformance Test Results**

|             |   |          |      |  |
|-------------|---|----------|------|--|
| 2.1.4.16    | Arbitration in extended format frame test         | B        | Pass |  |
| 2.1.4.17    | Arbitration in extended format frame test         | B        | Pass |  |
| 2.1.4.18    | Arbitration in extended format frame test         | B        | Pass |  |
| 2.1.4.19    | Arbitration in extended format frame test         | B        | Pass |  |
| 2.1.4.20    | Arbitration in extended format frame test         | B        | Pass |  |
| 2.1.4.21    | Arbitration in extended format frame test         | B        | Pass |  |
| 2.1.4.22    | Arbitration in extended format frame test         | B        | Pass |  |
| 2.1.4.23    | Arbitration in extended format frame test         | B        | Pass |  |
| 2.1.4.24    | Arbitration in extended format frame test         | B        | Pass |  |
| 2.1.4.25    | Arbitration in extended format frame test         | B        | Pass |  |
| 2.1.4.26    | Arbitration in extended format frame test         | B        | Pass |  |
| 2.1.4.27    | Arbitration in extended format frame test         | B        | Pass |  |
| 2.1.4.28    | Arbitration in extended format frame test         | B        | Pass |  |
| 2.1.4.29    | Arbitration in extended format frame test         | B        | Pass |  |
| 2.1.4.30    | Arbitration in extended format frame test         | B        | Pass |  |
| 2.1.4.31    | Arbitration in extended format frame test         | B        | Pass |  |
| 2.1.4.32    | Arbitration in extended format frame test         | B        | Pass |  |
| 2.1.5.0     | Message validation                                | A, B, BP | Pass |  |
| 2.1.6.1     | STUFF bit generation capability in standard frame | A, B, BP | Pass |  |
| 2.1.6.2     | STUFF bit generation capability in standard frame | A, B, BP | Pass |  |
| 2.1.6.3     | STUFF bit generation capability in standard frame | A, B, BP | Pass |  |
| 2.1.6.4     | STUFF bit generation capability in standard frame | A, B, BP | Pass |  |
| 2.1.6.5     | STUFF bit generation capability in standard frame | A, B, BP | Pass |  |
| 2.1.6.6     | STUFF bit generation capability in standard frame | A, B, BP | Pass |  |
| 2.1.7.1     | STUFF bit generation capability in extended frame | B, BP    | Pass |  |
| 2.1.7.2     | STUFF bit generation capability in extended frame | B, BP    | Pass |  |
| 2.1.7.3     | STUFF bit generation capability in extended frame | B, BP    | Pass |  |
| <b>2.2.</b> | <b><i>Error detection class</i></b>               |          |      |  |
| 2.2.1.1     | Bit Error in standard frame test                  | A, B, BP | Pass |  |
| 2.2.1.2     | Bit Error in standard frame test                  | A, B, BP | Pass |  |
| 2.2.1.3     | Bit Error in standard frame test                  | A, B, BP | Pass |  |

## Chapter 4 Detailed Test Results

**Table 4-1: ISO CAN Conformance Test Results**

|          |                                    |          |      |                  |
|----------|------------------------------------|----------|------|------------------|
| 2.2.1.4  | Bit Error in standard frame test   | A, B, BP | Pass |                  |
| 2.2.1.5  | Bit Error in standard frame test   | A, B, BP | Pass |                  |
| 2.2.1.6  | Bit Error in standard frame test   | A, B, BP | Pass |                  |
| 2.2.1.7  | Bit Error in standard frame test   | A, B, BP | Pass |                  |
| 2.2.1.8  | Bit Error in standard frame test   | A, B, BP | Pass |                  |
| 2.2.1.9  | Bit Error in standard frame test   | A, B, BP | Pass | C&S Add-on (RTR) |
| 2.2.1.10 | Bit Error in standard frame test   | A, B, BP | Pass | C&S Add-on (r0)  |
| 2.2.2.1  | Bit Error in extended frame test   | B        | Pass |                  |
| 2.2.2.2  | Bit Error in extended frame test   | B        | Pass |                  |
| 2.2.2.3  | Bit Error in extended frame test   | B        | Pass |                  |
| 2.2.2.4  | Bit Error in extended frame test   | B        | Pass |                  |
| 2.2.2.5  | Bit Error in extended frame test   | B        | Pass |                  |
| 2.2.2.6  | Bit Error in extended frame test   | B        | Pass |                  |
| 2.2.2.7  | Bit Error in extended frame test   | B        | Pass |                  |
| 2.2.2.8  | Bit Error in extended frame test   | B        | Pass |                  |
| 2.2.2.9  | Bit Error in extended frame test   | B        | Pass | C&S Add-on (RTR) |
| 2.2.2.10 | Bit Error in extended frame test   | B        | Pass | C&S Add-on (r0)  |
| 2.2.2.11 | Bit Error in extended frame test   | B        | Pass | C&S Add-on (r1)  |
| 2.2.3.1  | Stuff Error test in standard frame | A, B, BP | Pass |                  |
| 2.2.3.2  | Stuff Error test in standard frame | A, B, BP | Pass |                  |
| 2.2.3.3  | Stuff Error test in standard frame | A, B, BP | Pass |                  |
| 2.2.3.4  | Stuff Error test in standard frame | A, B, BP | Pass |                  |
| 2.2.3.5  | Stuff Error test in standard frame | A, B, BP | Pass |                  |
| 2.2.3.6  | Stuff Error test in standard frame | A, B, BP | Pass |                  |
| 2.2.3.7  | Stuff Error test in standard frame | A, B, BP | Pass |                  |
| 2.2.3.8  | Stuff Error test in standard frame | A, B, BP | Pass |                  |
| 2.2.3.9  | Stuff Error test in standard frame | A, B, BP | Pass |                  |
| 2.2.3.10 | Stuff Error test in standard frame | A, B, BP | Pass |                  |
| 2.2.3.11 | Stuff Error test in standard frame | A, B, BP | Pass |                  |



## Chapter 4 Detailed Test Results

**Table 4-1: ISO CAN Conformance Test Results**

|          |                                    |          |      |  |
|----------|------------------------------------|----------|------|--|
| 2.2.3.12 | Stuff Error test in standard frame | A, B, BP | Pass |  |
| 2.2.3.13 | Stuff Error test in standard frame | A, B, BP | Pass |  |
| 2.2.3.14 | Stuff Error test in standard frame | A, B, BP | Pass |  |
| 2.2.3.15 | Stuff Error test in standard frame | A, B, BP | Pass |  |
| 2.2.3.16 | Stuff Error test in standard frame | A, B, BP | Pass |  |
| 2.2.3.17 | Stuff Error test in standard frame | A, B, BP | Pass |  |
| 2.2.3.18 | Stuff Error test in standard frame | A, B, BP | Pass |  |
| 2.2.3.19 | Stuff Error test in standard frame | A, B, BP | Pass |  |
| 2.2.3.20 | Stuff Error test in standard frame | A, B, BP | Pass |  |
| 2.2.3.21 | Stuff Error test in standard frame | A, B, BP | Pass |  |
| 2.2.3.22 | Stuff Error test in standard frame | A, B, BP | Pass |  |
| 2.2.3.23 | Stuff Error test in standard frame | A, B, BP | Pass |  |
| 2.2.3.24 | Stuff Error test in standard frame | A, B, BP | Pass |  |
| 2.2.3.25 | Stuff Error test in standard frame | A, B, BP | Pass |  |
| 2.2.3.26 | Stuff Error test in standard frame | A, B, BP | Pass |  |
| 2.2.3.27 | Stuff Error test in standard frame | A, B, BP | Pass |  |
| 2.2.3.28 | Stuff Error test in standard frame | A, B, BP | Pass |  |
| 2.2.3.29 | Stuff Error test in standard frame | A, B, BP | Pass |  |
| 2.2.3.30 | Stuff Error test in standard frame | A, B, BP | Pass |  |
| 2.2.3.31 | Stuff Error test in standard frame | A, B, BP | Pass |  |
| 2.2.3.32 | Stuff Error test in standard frame | A, B, BP | Pass |  |
| 2.2.3.33 | Stuff Error test in standard frame | A, B, BP | Pass |  |
| 2.2.3.34 | Stuff Error test in standard frame | A, B, BP | Pass |  |
| 2.2.3.35 | Stuff Error test in standard frame | A, B, BP | Pass |  |
| 2.2.4.1  | Stuff Error test in extended frame | B        | Pass |  |
| 2.2.4.2  | Stuff Error test in extended frame | B        | Pass |  |
| 2.2.4.3  | Stuff Error test in extended frame | B        | Pass |  |
| 2.2.4.4  | Stuff Error test in extended frame | B        | Pass |  |
| 2.2.4.5  | Stuff Error test in extended frame | B        | Pass |  |
| 2.2.4.6  | Stuff Error test in extended frame | B        | Pass |  |
| 2.2.4.7  | Stuff Error test in extended frame | B        | Pass |  |

## Chapter 4 Detailed Test Results

**Table 4-1: ISO CAN Conformance Test Results**

|          |                                    |          |      |            |
|----------|------------------------------------|----------|------|------------|
| 2.2.4.8  | Stuff Error test in extended frame | B        | Pass |            |
| 2.2.4.9  | Stuff Error test in extended frame | B        | Pass |            |
| 2.2.4.10 | Stuff Error test in extended frame | B        | Pass |            |
| 2.2.4.11 | Stuff Error test in extended frame | B        | Pass |            |
| 2.2.4.12 | Stuff Error test in extended frame | B        | Pass |            |
| 2.2.4.13 | Stuff Error test in extended frame | B        | Pass |            |
| 2.2.4.14 | Stuff Error test in extended frame | B        | Pass |            |
| 2.2.4.15 | Stuff Error test in extended frame | B        | Pass |            |
| 2.2.4.16 | Stuff Error test in extended frame | B        | Pass |            |
| 2.2.4.17 | Stuff Error test in extended frame | B        | Pass |            |
| 2.2.4.18 | Stuff Error test in extended frame | B        | Pass |            |
| 2.2.4.19 | Stuff Error test in extended frame | B        | Pass |            |
| 2.2.4.20 | Stuff Error test in extended frame | B        | Pass |            |
| 2.2.4.21 | Stuff Error test in extended frame | B        | Pass |            |
| 2.2.4.22 | Stuff Error test in extended frame | B        | Pass |            |
| 2.2.4.23 | Stuff Error test in extended frame | B        | Pass |            |
| 2.2.4.24 | Stuff Error test in extended frame | B        | Pass |            |
| 2.2.4.25 | Stuff Error test in extended frame | B        | Pass |            |
| 2.2.4.26 | Stuff Error test in extended frame | B        | Pass |            |
| 2.2.4.27 | Stuff Error test in extended frame | B        | Pass |            |
| 2.2.4.28 | Stuff Error test in extended frame | B        | Pass |            |
| 2.2.4.29 | Stuff Error test in extended frame | B        | Pass |            |
| 2.2.4.30 | Stuff Error test in extended frame | B        | Pass |            |
| 2.2.4.31 | Stuff Error test in extended frame | B        | Pass |            |
| 2.2.4.32 | Stuff Error test in extended frame | B        | Pass |            |
| 2.2.4.33 | Stuff Error test in extended frame | B        | Pass |            |
| 2.2.4.34 | Stuff Error test in extended frame | B        | Pass |            |
| 2.2.4.35 | Stuff Error test in extended frame | B        | Pass | C&S Add-on |
| 2.2.5.1  | FORM ERROR                         | A, B, BP | Pass |            |
| 2.2.5.2  | FORM ERROR                         | A, B, BP | Pass |            |
| 2.2.5.3  | FORM ERROR                         | A, B, BP | Pass |            |

## Chapter 4 Detailed Test Results

**Table 4-1: ISO CAN Conformance Test Results**

|             |  |          |      |            |
|-------------|--|----------|------|------------|
| 2.2.5.4     | FORM ERROR   | A, B, BP | Pass |            |
| 2.2.5.5     | FORM ERROR   | A, B, BP | Pass |            |
| 2.2.6.0     | Acknowledgement Error  | A, B, BP | Pass |            |
| <b>2.3.</b> | <b><i>Error Frame Management Class</i></b>                                 |          |      |            |
| 2.3.1.1     | ERROR FLAG longer than 6 Bits  | A, B, BP | Pass |            |
| 2.3.1.2     | ERROR FLAG longer than 6 Bits  | A, B, BP | Pass |            |
| 2.3.1.3     | ERROR FLAG longer than 6 Bits  | A, B, BP | Pass |            |
| 2.3.2.0     | Transmission on the third bit of intermission field                        | A, B, BP | Pass |            |
| 2.3.2.0_CS  | Transmission on the third bit of intermission field                        | A, B, BP | Pass |            |
| 2.3.2.1_CS  | Transmission on the third bit of intermission field with recessive ID bits | A, B, BP | Pass | C&S Add-on |
| 2.3.2.2_CS  | Transmission on the third bit of intermission field with recessive ID bits | A, B, BP | Pass | C&S Add-on |
| 2.3.2.3_CS  | Transmission on the third bit of intermission field                        | A, B, BP | Pass | C&S Add-on |
| 2.3.2.4     | Transmission on the third bit of intermission field                        | A, B, BP | Pass | C&S Add-on |
| 2.3.3.1     | BIT ERROR in ERROR FLAG  | A, B, BP | Pass |            |
| 2.3.3.2     | BIT ERROR in ERROR FLAG  | A, B, BP | Pass |            |
| 2.3.3.3     | BIT ERROR in ERROR FLAG  | A, B, BP | Pass |            |
| 2.3.4.1_CS  | Form Error in ERROR DELIMITER  | A, B, BP | Pass | C&S Add-on |
| 2.3.4.2     | Form Error in ERROR DELIMITER  | A, B, BP | Pass |            |
| 2.3.4.3_CS  | Form Error in ERROR DELIMITER  | A, B, BP | Pass | C&S Add-on |
| 2.3.4.4     | Form Error in ERROR DELIMITER  | A, B, BP | Pass |            |
| 2.3.4.5_CS  | Form Error in ERROR DELIMITER  | A, B, BP | Pass | C&S Add-on |
| 2.3.4.6_CS  | Form Error in ERROR DELIMITER  | A, B, BP | Pass | C&S Add-on |
| 2.3.4.7     | Form Error in ERROR DELIMITER  | A, B, BP | Pass |            |
| 2.3.4.8_CS  | Form Error in ERROR DELIMITER  | A, B, BP | Pass | C&S Add-on |
| <b>2.4.</b> | <b><i>Overload frame management class</i></b>                              |          |      |            |
| 2.4.1.1     | MAC Overload generation in Intermission field                              | A, B, BP | Pass |            |
| 2.4.1.2     | MAC Overload generation in Intermission field                              | A, B, BP | Pass |            |
| 2.4.2.1     | Eighth bit of an ERROR and OVERLOAD DELIMITER                              | A, B, BP | Pass |            |
| 2.4.2.2     | Eighth bit of an ERROR and OVERLOAD DELIMITER                              | A, B, BP | Pass |            |
| 2.4.3.0     | Transmission on the third Bit of Intermission Field                        | A, B, BP | Pass |            |

## Chapter 4 Detailed Test Results

**Table 4-1: ISO CAN Conformance Test Results**

|             |  |          |      |            |
|-------------|--|----------|------|------------|
| 2.4.3.0_CS  | Transmission on the third Bit of Intermission Field                | A, B, BP | Pass |            |
| 2.4.4.1     | Bit Error in Overload FLAG   | A, B, BP | Pass |            |
| 2.4.4.2     | Bit Error in Overload FLAG   | A, B, BP | Pass |            |
| 2.4.4.3     | Bit Error in Overload FLAG   | A, B, BP | Pass |            |
| 2.4.5.1     | Form Error in OVERLOAD DELIMITER                                   | A, B, BP | Pass |            |
| 2.4.5.2     | Form Error in OVERLOAD DELIMITER                                   | A, B, BP | Pass |            |
| 2.4.5.3     | Form Error in OVERLOAD DELIMITER                                   | A, B, BP | Pass |            |
| <b>2.5.</b> | <b><i>Passive error state and BUS-OFF class</i></b>                |          |      |            |
| 2.5.1.1     | Acceptance of Active Error Flag overwriting Passive Error Flag     | A, B, BP | Pass |            |
| 2.5.1.2     | Acceptance of Active Error Flag overwriting Passive Error Flag     | A, B, BP | Pass |            |
| 2.5.1.3     | Acceptance of Active Error Flag overwriting Passive Error Flag     | A, B, BP | Pass |            |
| 2.5.2.0     | Frame acceptance after passive Error Frame transmission            | A, B, BP | Pass |            |
| 2.5.3.1     | Acceptance of 7 consecutive dominant bits after Passive Error Flag | A, B, BP | Pass |            |
| 2.5.3.2     | Acceptance of 7 consecutive dominant bits after Passive Error Flag | A, B, BP | Pass |            |
| 2.5.3.3     | Acceptance of 7 consecutive dominant bits after Passive Error Flag | A, B, BP | Pass |            |
| 2.5.4.1     | Reception of a frame during Suspend Transmission Field             | A, B, BP | Pass |            |
| 2.5.4.2     | Reception of a frame during Suspend Transmission Field             | A, B, BP | Pass |            |
| 2.5.4.3     | Reception of a frame during Suspend Transmission Field             | A, B, BP | Pass |            |
| 2.5.5.0     | Transmission of a frame after Suspend Transmission Field test 1    | A, B, BP | Pass |            |
| 2.5.6.0     | Transmission of a frame after Suspend Transmission Field test 2    | A, B, BP | Pass |            |
| 2.5.7.0     | Transmission of a frame after Suspend Transmission Field test 3    | A, B, BP | Pass |            |
| 2.5.8.0     | Transmission of a frame without Suspend Transmission Field         | A, B, BP | Pass |            |
| 2.5.9.0     | No transmission of a frame on the third bit of Intermission field  | A, B, BP | Pass |            |
| 2.5.9.1_CS  | No-transmission of frame on the 7th bit of suspend field           | A, B, BP | Pass | C&S Add-on |
| 2.5.10.0    | BUS-OFF state  | A, B, BP | Pass |            |
| 2.5.11.1    | BUS-OFF Recovery   | A, B, BP | Pass |            |
| 2.5.11.2    | BUS-OFF Recovery   | A, B, BP | Pass |            |
| 2.5.12.0    | Completion condition for a Passive Error Flag                      | A, B, BP | Pass |            |
| 2.5.13.1    | Form Error in passive Error Delimiter                              | A, B, BP | Pass |            |

## Chapter 4 Detailed Test Results

**Table 4-1: ISO CAN Conformance Test Results**

|                 |  |          |      |            |
|-----------------|--|----------|------|------------|
| 2.5.13.2        | Form Error in passive Error Delimiter                              | A, B, BP | Pass |            |
| 2.5.13.3        | Form Error in passive Error Delimiter                              | A, B, BP | Pass |            |
| 2.5.14.0        | Maximum Recovery time after a corrupted frame                      | A, B, BP | Pass |            |
| 2.5.15.0<br>_CS | Transition from Active to Passive Error Flag                       | A, B, BP | Pass | C&S Add-on |
| <b>2.6.</b>     | <b><i>Error Counter Management Class</i></b>                       |          |      |            |
| 2.6.1.1         | TEC increment on Bit Error during Active Error Flag                | A, B, BP | Pass |            |
| 2.6.1.2         | TEC increment on Bit Error during Active Error Flag                | A, B, BP | Pass |            |
| 2.6.1.3         | TEC increment on Bit Error during Active Error Flag                | A, B, BP | Pass |            |
| 2.6.2.1         | TEC increment on Bit Error during Overload Flag                    | A, B, BP | Pass |            |
| 2.6.2.2         | TEC increment on Bit Error during Overload Flag                    | A, B, BP | Pass |            |
| 2.6.2.3         | TEC increment on Bit Error during Overload Flag                    | A, B, BP | Pass |            |
| 2.6.3.0         | TEC increment when Active Error Flag is followed by dominant bits  | A, B, BP | Pass |            |
| 2.6.4.0         | TEC increment when Passive Error Flag is followed by dominant bits | A, B, BP | Pass |            |
| 2.6.5.0         | TEC increment when Overload Flag is followed by dominant bits      | A, B, BP | Pass |            |
| 2.6.6.1         | TEC increment on Bit Error in data frame                           | A, B, BP | Pass |            |
| 2.6.6.2         | TEC increment on Bit Error in data frame                           | A, B, BP | Pass |            |
| 2.6.6.3         | TEC increment on Bit Error in data frame                           | A, B, BP | Pass |            |
| 2.6.6.4         | TEC increment on Bit Error in data frame                           | A, B, BP | Pass |            |
| 2.6.6.5         | TEC increment on Bit Error in data frame                           | A, B, BP | Pass |            |
| 2.6.6.6_CS      | TEC increment on Bit Error in data frame                           | A, B, BP | Pass |            |
| 2.6.6.7_CS      | TEC increment on Bit Error in data frame                           | A, B, BP | Pass |            |
| 2.6.6.8_CS      | TEC increment on Bit Error in data frame                           | A, B, BP | Pass |            |
| 2.6.7.1         | TEC increment on Form Error in a frame                             | A, B, BP | Pass |            |
| 2.6.7.2         | TEC increment on Form Error in a frame                             | A, B, BP | Pass |            |
| 2.6.7.3         | TEC increment on Form Error in a frame                             | A, B, BP | Pass |            |
| 2.6.7.4         | TEC increment on Form Error in a frame                             | A, B, BP | Pass |            |
| 2.6.7.5         | TEC increment on Form Error in a frame                             | A, B, BP | Pass |            |
| 2.6.8.0         | TEC increment on Acknowledgement Error                             | A, B, BP | Pass |            |
| 2.6.9.1         | TEC increment on Form Error in Error Delimiter                     | A, B, BP | Pass |            |

## Chapter 4 Detailed Test Results

**Table 4-1: ISO CAN Conformance Test Results**

|             |   |  |      |            |
|-------------|---|--|------|------------|
| 2.6.9.2     | TEC increment on Form Error in Error Delimiter                    | A, B, BP   | Pass |            |
| 2.6.9.3     | TEC increment on Form Error in Error Delimiter                    | A, B, BP   | Pass |            |
| 2.6.10.1    | TEC increment on Form Error in Overload Delimiter                 | A, B, BP   | Pass |            |
| 2.6.10.2    | TEC increment on Form Error in Overload Delimiter                 | A, B, BP   | Pass |            |
| 2.6.11.0    | TEC decrement on successful Frame transmission for TEC < 128      | A, B, BP   | Pass |            |
| 2.6.12.0    | TEC decrement on successful Frame transmission for TEC > 127      | A, B, BP   | Pass |            |
| 2.6.13.0    | TEC non-increment on 13-bits long Overload FLAG                   | A, B, BP   | Pass |            |
| 2.6.14.0    | TEC non-increment on 13-bit long Error Flag                       | A, B, BP   | Pass |            |
| 2.6.15.0    | TEC non-increment on Form Error at last bit of Overload Delimiter | A, B, BP   | Pass |            |
| 2.6.16.0    | TEC non-increment on Form Error at last bit of Error Delimiter    | A, B, BP   | Pass |            |
| 2.6.17.0    | TEC non-increment on Acknowledgement Error in Passive State       | A, B, BP   | Pass |            |
| 2.6.18.0    | TEC increment on Acknowledgement Error in Passive State           | A, B, BP   | Pass |            |
| 2.6.19.0    | TEC non-increment on Stuff Error during arbitration               | A, B, BP   | Pass |            |
| <b>2.7.</b> | <b><i>Bit timing class</i></b>                                    | See 4.2.1 on page 41:<br>Generation of Bit Timing Test Atoms |      |            |
|             |   |  |      |            |
| <b>3.</b>   | <b>Remote Tests</b>   |  |      |            |
| <b>3.1.</b> | <b><i>Valid frame format class</i></b>                            |  |      |            |
| 3.1.1.1_CS  | Receive standard remote frame and number of data                  | A, B, BP   | Pass | C&S Add-on |
| 3.1.1.2_CS  | Receive standard remote frame and number of data                  | A, B, BP   | Pass | C&S Add-on |
| 3.1.1.3_CS  | Receive standard remote frame and number of data                  | A, B, BP   | Pass | C&S Add-on |
| 3.1.1.4_CS  | Receive standard remote frame and number of data                  | A, B, BP   | Pass | C&S Add-on |
| 3.1.1.5_CS  | Receive standard remote frame and number of data                  | A, B, BP   | Pass | C&S Add-on |
| 3.1.1.6_CS  | Receive standard remote frame and number of data                  | A, B, BP   | Pass | C&S Add-on |
| 3.1.1.7_CS  | Receive standard remote frame and number of data                  | A, B, BP   | Pass | C&S Add-on |
| 3.1.1.8_CS  | Receive standard remote frame and number of data                  | A, B, BP   | Pass | C&S Add-on |
| 3.1.1.9_CS  | Receive standard remote frame and number of data                  | A, B, BP   | Pass | C&S Add-on |
| 3.1.2.1_CS  | Receive extended remote frame and number of data                  | B, BP  | Pass | C&S Add-on |
| 3.1.2.2_CS  | Receive extended remote frame and number of data                  | B, BP  | Pass | C&S Add-on |
| 3.1.2.3_CS  | Receive extended remote frame and number of data                  | B, BP  | Pass | C&S Add-on |
| 3.1.2.4_CS  | Receive extended remote frame and number of data                  | B, BP  | Pass | C&S Add-on |

## Chapter 4 Detailed Test Results

**Table 4-1: ISO CAN Conformance Test Results**

|            |   |          |      |            |
|------------|---|----------|------|------------|
| 3.1.2.5_CS | Receive extended remote frame and number of data  | B, BP    | Pass | C&S Add-on |
| 3.1.2.6_CS | Receive extended remote frame and number of data  | B, BP    | Pass | C&S Add-on |
| 3.1.2.7_CS | Receive extended remote frame and number of data  | B, BP    | Pass | C&S Add-on |
| 3.1.2.8_CS | Receive extended remote frame and number of data  | B, BP    | Pass | C&S Add-on |
| 3.1.2.9_CS | Receive extended remote frame and number of data  | B, BP    | Pass | C&S Add-on |
| 3.1.3.1_CS | DLC greater than 8                                | A, B, BP | Pass | C&S Add-on |
| 3.1.3.2_CS | DLC greater than 8                                | A, B, BP | Pass | C&S Add-on |
| 3.1.3.3_CS | DLC greater than 8                                | A, B, BP | Pass | C&S Add-on |
| 3.1.3.4_CS | DLC greater than 8                                | A, B, BP | Pass | C&S Add-on |
| 3.1.3.5_CS | DLC greater than 8                                | A, B, BP | Pass | C&S Add-on |
| 3.1.3.6_CS | DLC greater than 8                                | A, B, BP | Pass | C&S Add-on |
| 3.1.3.7_CS | DLC greater than 8                                | A, B, BP | Pass | C&S Add-on |
| 3.1.4.1_CS | Transmit standard remote frame and number of data | A, B, BP | Pass | C&S Add-on |
| 3.1.4.2_CS | Transmit standard remote frame and number of data | A, B, BP | Pass | C&S Add-on |
| 3.1.4.3_CS | Transmit standard remote frame and number of data | A, B, BP | Pass | C&S Add-on |
| 3.1.4.4_CS | Transmit standard remote frame and number of data | A, B, BP | Pass | C&S Add-on |
| 3.1.4.5_CS | Transmit standard remote frame and number of data | A, B, BP | Pass | C&S Add-on |
| 3.1.4.6_CS | Transmit standard remote frame and number of data | A, B, BP | Pass | C&S Add-on |
| 3.1.4.7_CS | Transmit standard remote frame and number of data | A, B, BP | Pass | C&S Add-on |
| 3.1.4.8_CS | Transmit standard remote frame and number of data | A, B, BP | Pass | C&S Add-on |
| 3.1.4.9_CS | Transmit standard remote frame and number of data | A, B, BP | Pass | C&S Add-on |
| 3.1.5.1_CS | Transmit extended remote frame and number of data | B        | Pass | C&S Add-on |
| 3.1.5.2_CS | Transmit extended remote frame and number of data | B        | Pass | C&S Add-on |
| 3.1.5.3_CS | Transmit extended remote frame and number of data | B        | Pass | C&S Add-on |
| 3.1.5.4_CS | Transmit extended remote frame and number of data | B        | Pass | C&S Add-on |
| 3.1.5.5_CS | Transmit extended remote frame and number of data | B        | Pass | C&S Add-on |
| 3.1.5.6_CS | Transmit extended remote frame and number of data | B        | Pass | C&S Add-on |
| 3.1.5.7_CS | Transmit extended remote frame and number of data | B        | Pass | C&S Add-on |
| 3.1.5.8_CS | Transmit extended remote frame and number of data | B        | Pass | C&S Add-on |
| 3.1.5.9_CS | Transmit extended remote frame and number of data | B        | Pass | C&S Add-on |
| 3.1.6.1_CS | DLC greater than 8                                | A, B, BP | Pass | C&S Add-on |
| 3.1.6.2_CS | DLC greater than 8                                | A, B, BP | Pass | C&S Add-on |

## Chapter 4 Detailed Test Results

**Table 4-1: ISO CAN Conformance Test Results**

|            |                                |          |      |            |
|------------|--------------------------------|----------|------|------------|
| 3.1.6.3_CS | DLC greater than 8             | A, B, BP | Pass | C&S Add-on |
| 3.1.6.4_CS | DLC greater than 8             | A, B, BP | Pass | C&S Add-on |
| 3.1.6.5_CS | DLC greater than 8             | A, B, BP | Pass | C&S Add-on |
| 3.1.6.6_CS | DLC greater than 8             | A, B, BP | Pass | C&S Add-on |
| 3.1.6.7_CS | DLC greater than 8             | A, B, BP | Pass | C&S Add-on |
| 3.1.7.0_CS | Arbitration in standard format | A, B, BP | Pass | C&S Add-on |
| 3.1.8.0_CS | Arbitration in extended format | B        | Pass | C&S Add-on |

a. CAN Version: Test is applicable for following CAN node types

A: IUT is handling 11 bit identifiers,

B: IUT is handling 11 and 29 bit identifiers,

BP: IUT is handling 11 identifiers and tolerating 29 bit identifiers.

NEC CAN macros are all of 'B' type.



## Chapter 4 Detailed Test Results

### 4.2 Bit Timing

#### 4.2.1 Generation of Bit Timing Test Atoms

To reduce the test time of the bit timing, the following configurations are tested instead of all possible setups. These configurations are the most critical timing setups where errors can occur. If an error is found with this setup, these configuration are expanded to isolate the error. If the IUT passes these test setups, the normal timing setups shall can be expected to be pass, too.

Bit Timing Configurations:

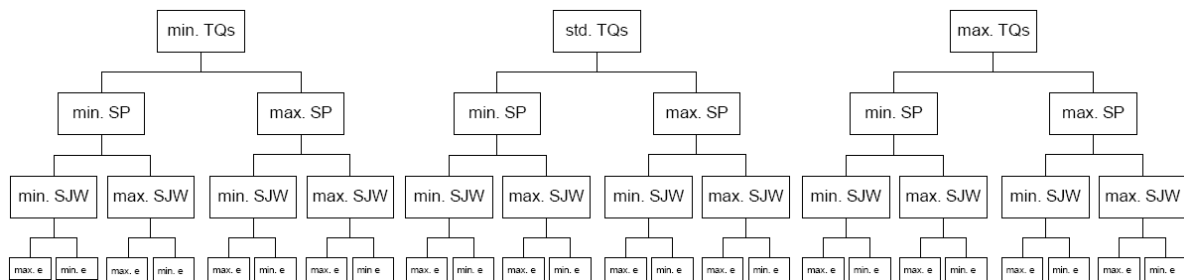


Figure 4-1: Bit Timing Test Cases

- Notes:**
1. std / min / max TQs:  
The standard, minimal and maximal number of Time Quanta per Bit Time.
  2. min / max SP:  
The minimal and maximal Sample Point configuration which is possible.
  3. min / max SJW:  
The minimal and maximal Resynchronization Jump Width
  4. min / max e:  
The minimal and maximal phase error "e". This is used only at the synchronization and glitch tests.

#### 4.2.2 Used Bit Timing Test Settings

**Table 4-2: Used Bit Timing Test Settings**

| Baudrate    | BRP <sup>a</sup> Setting | TQ <sup>b</sup> / Bit Setting | RSJW <sup>c</sup> Min / Max Setting | Sample Point on | IPT <sup>d</sup> Setting |
|-------------|--------------------------|-------------------------------|-------------------------------------|-----------------|--------------------------|
| 1000 kbit/s | 1                        | 16 (typical)                  | 1 / 4                               | Min / Max; 75%  | 2                        |
| 500 kbit/s  | 2                        | 16 (typical)                  | 1 / 4                               | Min / Max; 75%  | 2                        |
| 320 kbit/s  | 2                        | 25 (max)                      | 1 / 4                               | Min / Max; 72%  | 2                        |
| 250 kbit/s  | 4                        | 16 (typical)                  | 1 / 4                               | Min / Max; 75%  | 2                        |
| 125 kbit/s  | 8                        | 16 (typical)                  | 1 / 4                               | Min / Max; 75%  | 2                        |
| 100 kbit/s  | 20                       | 8 (min)                       | 1 / 4                               | Min / Max; 75%  | 2                        |

- a. Bit Rate Prescaler
- b. Time Quanta
- c. Resynchronisation Jump Width
- d. Information Processing Time

## Chapter 4 Detailed Test Results

**Table 4-3: Bit Timing Test Results**

| Reference    | Name  | Verdict | Comment       |
|--------------|---|---------|---------------|
|              |   |         |               |
| <b>1.7.1</b> | <b>Receiver</b>   |         |               |
| 1.7.1.1      | Sample point test   | Pass    | All Baudrates |
| 1.7.1.2      | Hard synchronization on SOF reception                           | Pass    | All Baudrates |
| 1.7.1.3      | Synchronization when $e > 0$ and $e \leq SJW$                   | Pass    | All Baudrates |
| 1.7.1.4      | Synchronization when $e > 0$ and $e > SJW$                      | Pass    | All Baudrates |
| 1.7.1.5      | Synchronization when $e < 0$ and $ e  \leq SJW$                 | Pass    | All Baudrates |
| 1.7.1.6      | Synchronization when $e < 0$ and $ e  > SJW$                    | Pass    | All Baudrates |
| 1.7.1.7      | Glitch filtering test on positive phase error                   | Pass    | All Baudrates |
| 1.7.1.8      | Glitch filtering test on negative phase error                   | Pass    | All Baudrates |
| 1.7.1.9      | Non-Resynchronization after a dominant sampled bit              | Pass    | All Baudrates |
| 1.7.1.10     | Glitch filtering during bus idle                                | Pass    | All Baudrates |
|              |   |         |               |
| <b>2.7.1</b> | <b>Transmitter</b>  |         |               |
| 2.7.1.1      | Sample Point Test   | Pass    | All Baudrates |
| 2.7.1.2      | Hard Synchronization on SOF Reception before sample point       | Pass    | All Baudrates |
| 2.7.1.3      | Hard Synchronization on SOF Reception after sample point        | Pass    | All Baudrates |
| 2.7.1.4      | Synchronization when $e < 0$ and $ e  \leq SJW$                 | Pass    | All Baudrates |
| 2.7.1.5      | Synchronization for $e < 0$ and $ e  > SJW$                     | Pass    | All Baudrates |
| 2.7.1.6      | Glitch filtering test on negative phase error                   | Pass    | All Baudrates |
| 2.7.1.7      | Non-synchronization on dominant bit transmission                | Pass    | All Baudrates |
| 2.7.1.8      | Synchronization before information processing time              | Pass    | All Baudrates |
| 2.7.1.9      | Synchronization after sample point while sending a dominant bit | Pass    | All Baudrates |

## Chapter 4 Detailed Test Results

### 4.3 Robustness Tests

#### 4.3.1 Used Robustness Test Settings

**Table 4-4: Used Robustness Test Settings**

| Baudrate   | Number of Frames | Error Injection <sup>a</sup> |
|------------|------------------|------------------------------|
| 500 kbit/s | 5.000.000        | YES and NO                   |
| 250 kbit/s | 2.500.000        | YES and NO                   |
| 100 kbit/s | 1.000.000        | YES and NO                   |

a. YES and NO: Two tests, with and without error injection.

**Table 4-5: Robustness Test Results**

| Reference  | Name  | Verdict | Comment       |
|------------|---|---------|---------------|
|            |   |         |               |
| <b>5.1</b> | <b>VALID STANDARD FRAMES ONLY</b>                       |         |               |
| 5.1.1      | Standard Random Test - LT: Odd Identifiers              | Pass    | All Baudrates |
| 5.1.2      | Standard Random Test - LT: Even Identifiers             | Pass    | All Baudrates |
|            |   |         |               |
| <b>5.2</b> | <b>STANDARD FRAMES WITH ERRORS</b>                      |         |               |
| 5.2.1      | Standard Random Test - LT: Odd Identifiers with Errors  | Pass    | All Baudrates |
| 5.2.2      | Standard Random Test - LT: Even Identifiers with Errors | Pass    | All Baudrates |
|            |   |         |               |
| <b>5.3</b> | <b>VALID EXTENDED FRAMES ONLY</b>                       |         |               |
| 5.3.1      | Extended Random Test - LT: Odd Identifiers              | Pass    | All Baudrates |
| 5.3.2      | Extended Random Test - LT: Even Identifiers             | Pass    | All Baudrates |
|            |   |         |               |
| <b>5.4</b> | <b>EXTENDED FRAMES WITH ERRORS</b>                      |         |               |
| 5.4.1      | Extended Random Test - LT: Odd Identifiers with Errors  | Pass    | All Baudrates |
| 5.4.2      | Extended Random Test - LT: Even Identifiers with Errors | Pass    | All Baudrates |

## Chapter 4 Detailed Test Results

### 4.4 Processor Interface Tests

**Table 4-6: Processor Interface Test Results - PI Part**

| Reference <sup>a</sup> | Name   | Verdict | Comment |
|------------------------|--|---------|---------|
| 401010xx               | Rx into / Tx from single buffer / standard identifier (1 – x)                      | Pass    |         |
| 401020xx               | Rx into / Tx from single buffer / extended identifier (1 – x)                      | Pass    |         |
| 401030xx               | Acceptance Mask Check with Mask 1 and Mailbox xx                                   | Pass    |         |
| 401040xx               | Acceptance Mask Check with Mask 2 and Mailbox xx                                   | Pass    |         |
| 401050xx               | Acceptance Mask Check with Mask 3 and Mailbox xx                                   | Pass    |         |
| 401060xx               | Acceptance Mask Check with Mask 4 and Mailbox xx                                   | Pass    |         |
| 401070xx               | Receive into multiple buffers / receive buffer order(1 – x)                        | Pass    |         |
| 401080xx               | Reception of standard frames with no sorting into mailbox for 32 mailboxes (1 - x) | Pass    |         |
| 401120xx               | Receive into multiple buffers / receive buffer order (1 – x)                       | Pass    |         |
| 401140xx               | Receive NOT into single buffer / standard identifier and remote flag set (1 - x)   | Pass    |         |
| 401150xx               | Receive NOT into single buffer / extended identifier and remote flag set (1 - x)   | Pass    |         |
| 401090xx               | Transmit buffer order (ID priority) (1 – x)  | Pass    |         |
| 401100xx               | Transmit buffer order (MB Nb. priority) (1 – x)                                    | Pass    |         |
| 401110xx               | Transmit buffer order on error (1 – x)   | Pass    |         |
| 401130xx               | Transmit buffer order (EXT) (1 – x)  | Pass    |         |
| 401160xx               | Transmit from single buffer / extended identifier and remote                       | Pass    |         |
| 401170xx               | Transmit from single buffer / standard identifier and remote                       | Pass    |         |
| 401200xx               | Overwrite if new data is already set (1 – x)                                       | Pass    |         |
| 40120bxx               | Overwrite with RTR frame if new data is already set (1 – x)                        | Pass    |         |
| 401210xx               | Discard if new data is already set (1 – x)   | Pass    |         |
| 401250xx               | Transmit buffer order / arbitration lost (1 – x)                                   | Pass    |         |
| 402010xx               | Abort transmission after send ( 1 – x )  | Pass    |         |
| 402020xx               | Abort transmission before message send ( 1 – x )                                   | Pass    |         |
| 402030xx               | Abort transmission arbitration lost ( 1 – x )                                      | Pass    |         |
| 402040xx               | Abort transmission in message with error ( 1 – x )                                 | Pass    |         |
| 402050xx               | Abort transmission after message send ( 1 – x )                                    | Pass    |         |
| 40301000               | Entering standby mode during transmission  | Pass    |         |

## Chapter 4 Detailed Test Results

**Table 4-6: Processor Interface Test Results - PI Part**

|          |  |      |  |
|----------|--|------|--|
| 40302000 | Entering standby mode during transmission                    | Pass |  |
| 40303000 | Entering standby mode during transmission / bus – errors     | Pass |  |
| 40304000 | Entering standby mode during transmission / bus – errors     | Pass |  |
| 40305000 | Entering standby mode during transmission / bus - errors     | Pass |  |
| 40306000 | Entering standby mode during transmission / arbitration lost | Pass |  |
| 40307000 | Entering standby mode during transmission / arbitration lost | Pass |  |
| 40308000 | Entering standby mode during transmission / arbitration lost | Pass |  |
| 40309000 | Entering standby mode during transmission                    | Pass |  |
| 40122000 | Status change due to REC                                     | Pass |  |
| 40123000 | Status change due to TEC                                     | Pass |  |
| 40124000 | Bus Off state  | Pass |  |

a. xx: For each available Message Buffer, one test is executed.

**Table 4-7: Processor Interface Test Results - SPI Part**

| Reference   | Name   | Verdict | Comment        |
|---|--|---------|----------------|
| <b>Additional Processor Interface Tests (SPI-1)</b> |  |         |                |
| 6111000   | Access CAN module registers access   | Pass    |                |
| 6111001   | Access CAN message buffer registers  | Pass    |                |
| 6111003   | Access CAN module registers (no error int.)                                    | Pass    |                |
| 6111004   | Access CAN message buffer registers (no error int.)                            | Pass    |                |
| 6112010   | Shut Down Independence from EFSD (no error int.)                               | Pass    |                |
| 6112011   | No Shut Down when EFSD is cleared (no error int.)                              | Pass    |                |
| 6112012   | Shut Down when EFSD is set (no error int.)                                     | Pass    |                |
| 61120110  | Global operating mode switch / CAN state independancy                          | Pass    |                |
| 61120111  | Global operating mode switch / CAN state independancy                          | Pass    |                |
| 61120112  | Global operating mode switch / CAN state independancy                          | Pass    |                |
| 61120113  | Global operating mode switch / CAN state independancy                          | Pass    |                |
| 61120120  | Global operating mode switch / CAN state & EFSD independancy CAN 0 not in Init | Pass    |                |
| 61120121  | Global operating mode switch / CAN state & EFSD independancy CAN 0 not in Init | Pass    |                |
| 61120122  | Global operating mode switch / CAN state & EFSD independancy CAN 1 not in Init | Pass    |                |
| 61120123  | Global operating mode switch / CAN state & EFSD independancy CAN 2 not in Init |         | Not applicable |

## Chapter 4 Detailed Test Results

**Table 4-7: Processor Interface Test Results - SPI Part**

|   |   |      |  |
|---|---|------|--|
| 6140040   | Get Version Information   | Pass |  |
| 6140041   | Get Configuration Information   | Pass |  |
| 6211100   | Transition Idle to Init   | Pass |  |
| 6211101   | Transition Normal to Init   | Pass |  |
| 6211102   | Transition Sleep to Init  | Pass |  |
| 6211103   | Transition Stop to Init   | Pass |  |
| 6221110   | Transition Init to Normal   | Pass |  |
| 6222111   | Transition Normal to (sleep to) Normal                                  | Pass |  |
| 6223112   | Transition Sleep to Normal by Clearing Sleep Bit                        | Pass |  |
| 6223113   | Transition Sleep to Normal by Bus Activities                            | Pass |  |
| 6231120   | Transition Normal to Sleep State  | Pass |  |
| 6231121   | Transition STOP to SLEEP State  | Pass |  |
| 6241130   | Transition Sleep to Stop Mode   | Pass |  |
| 6241131   | Transition Sleep to Stop Mode while bus traffic                         | Pass |  |
| 64827101  | Single Shot Mode  | Pass |  |
| 64827102  | Single Shot Mode  | Pass |  |
| 6484730   | Valid Frame Detection Flag  | Pass |  |
| 6491800   | Multi Receive Buffer Array  | Pass |  |
| <b>Additional Processor Interface Tests (SPI-2)</b> |   |      |  |
| 65000104  | Global operation mode clear while CAN module sleep mode (no error int.) | Pass |  |
| 65000105  | EFSD set while CAN module sleep mode                                    | Pass |  |
| 65000106  | Global operation mode clear while CAN module stop mode (no error int.)  | Pass |  |
| 65000107  | EFSD set while CAN module stop mode                                     | Pass |  |
| 65001012  | Transition Normal to Init (while Transmit operation)                    | Pass |  |
| 65001013  | Transition Normal to Init (while Receive operation)                     | Pass |  |
| 65001014  | Transition Normal to Init and Init to Normal while bus is busy          | Pass |  |
| 65001015  | Transition Bus-Off to Init (changed behavior)                           | Pass |  |
| 65001016  | Transition Error passive to Init (Bus Idle)                             | Pass |  |
| 65001017  | Transition Error passive to Init (While Transmit)                       | Pass |  |

## Chapter 4 Detailed Test Results

**Table 4-7: Processor Interface Test Results - SPI Part**

|   |  |      |                  |
|---|--|------|------------------|
| 65001018  | Transition Error passive to Init (While Receive)   | Pass |                  |
| 65001019  | Transition Stop mode to Sleep mode (Bus busy)  | Pass |                  |
| 65001022  | Bus activities while Stop mode   | Pass |                  |
| 65001048  | Single Buffer Transmit (1-X) / No Set RDY Flag   | Pass |                  |
| 65001049  | Single Buffer Receive (1-X) / No Set RDY Flag  | Pass |                  |
| 65001050  | Transmit Remote Frame from Transmit Message Buffer / Transmit Interrupt Enable / Disable   | Pass |                  |
| 65001053  | Receive Remote Frame into Transmit Message Buffer / Receive Interrupt Enable / Disable   | Pass |                  |
| 65001054  | Error Passive or Bus Off status for Transmission Interrupt Enable / Disable  | Pass |                  |
| 65001055  | Error Passive status for Reception Interrupt Enable / Disable  | Pass |                  |
| 65001057  | CAN Bus Error Interrupt Enable / Disable (TX)  | Pass |                  |
| 6501057B  | CAN Bus Error Interrupt Enable / Disable (RX)  | Pass |                  |
| 65001066  | Receive (extended identifier) into multiple buffer / setting IDE mask, standard identifier and Local message filters (1-X) (mask1-4) | Pass |                  |
| 65001067  | Receive (standard identifier) into multiple buffer / setting IDE mask, extended identifier and Local message filters (1-X) (mask1-4) | Pass |                  |
| <b>Additional Processor Interface Tests (SPI-3)</b> |  |      |                  |
| 3spi1100  | Memory and Register Access Tests / Initial Values  | Pass |                  |
| 3spi1200  | Memory and Register Access Tests / Positive Access Test  | Pass |                  |
| 3spi130   | Memory and Register Access Tests / Illegal Access Test   | Pass |                  |
| 3spi2100  | Macro Initialization and Control / Forced Shut Down (EFSD bit)   | Pass |                  |
| 3spi2210  | Transition from INIT Into the operational mode "Normal Operating Mode"   | Pass |                  |
| 3spi2220  | Transition from INIT Into the operational mode "Normal Operating Mode with Automatic Block Transmission"                             | Pass |                  |
| 3spi222a-c  | Transition from INIT Into the operational mode "Normal Operating Mode with Automatic Block Transmission"                             | Pass | additional tests |
| 3spi2231  | Transition from INIT Into the operational mode "Receive-only Mode"   | Pass |                  |
| 3spi2232  | Transition from INIT Into the operational mode "Receive-only Mode"   | Pass |                  |
| 3spi2233  | Transition from INIT Into the operational mode "Receive-only Mode"   | Pass |                  |
| 3spi2241  | Transition from INIT Into the operational mode "Single shot Mode"  | Pass |                  |

## Chapter 4 Detailed Test Results

**Table 4-7: Processor Interface Test Results - SPI Part**

|          |   |      |  |
|----------|---|------|--|
| 3spi2242 | Transition from INIT Into the operational mode "Single shot Mode" | Pass |  |
| 3spi2243 | Transition from INIT Into the operational mode "Single shot Mode" | Pass |  |
| 3spi2250 | Transition from INIT Into the operational mode "Self-test Mode"   | Pass |  |
| 3spi2301 | Direct Operational Mode Change Requests                           | Pass |  |
| 3spi2410 | Nesting of Macro Interrupts 1                                     | Pass |  |
| 3spi2420 | Nesting of Macro Interrupts 2                                     | Pass |  |
| 3spi3101 | Remote Frame Reception  | Pass |  |
| 3spi3102 | Remote Frame Reception  | Pass |  |
| 3spi3211 | Receive History List function (RHL function)                      | Pass |  |
| 3spi3212 | Receive History List function (RHL function)                      | Pass |  |
| 3spi3213 | Receive History List function (RHL function)                      | Pass |  |
| 3spi3221 | Receive History List function (RHL function)                      | Pass |  |
| 3spi3222 | Receive History List function (RHL function)                      | Pass |  |
| 3spi4111 | Transmit History List (THL function)                              | Pass |  |
| 3spi4112 | Transmit History List (THL function)                              | Pass |  |
| 3spi4113 | Transmit History List (THL function)                              | Pass |  |
| 3spi4121 | Transmit History List (THL function)                              | Pass |  |
| 3spi4122 | Transmit History List (THL function)                              | Pass |  |
| 3spi4200 | Transmission Request Abort  | Pass |  |
| 3spi4311 | Automatic Block Transmission function (ABT function)              | Pass |  |
| 3spi4312 | Automatic Block Transmission function (ABT function)              | Pass |  |
| 3spi4313 | Automatic Block Transmission function (ABT function)              | Pass |  |
| 3spi4321 | Automatic Block Transmission function (ABT function)              | Pass |  |
| 3spi4322 | Automatic Block Transmission function (ABT function)              | Pass |  |
| 3spi4323 | Automatic Block Transmission function (ABT function)              | Pass |  |
| 3spi4324 | Automatic Block Transmission function (ABT function)              | Pass |  |
| 3spi4325 | Automatic Block Transmission function (ABT function)              | Pass |  |
| 3spi4326 | Automatic Block Transmission function (ABT function)              | Pass |  |
| 3spi4327 | Automatic Block Transmission function (ABT function)              | Pass |  |
| 3spi4328 | Automatic Block Transmission function (ABT function)              | Pass |  |



## Chapter 4 Detailed Test Results

**Table 4-7: Processor Interface Test Results - SPI Part**

|          |   |      |  |
|----------|---|------|--|
| 3spi4331 | Automatic Block Transmission function (ABT function)  | Pass |  |
| 3spi4332 | Automatic Block Transmission function (ABT function)  | Pass |  |
| 3spi4333 | Automatic Block Transmission function (ABT function)  | Pass |  |
| 3spi5101 | CAN Protocol Error Detection Interface Receive Error Counter                                      | Pass |  |
| 3spi5102 | CAN Protocol Error Detection Interface Receive Error Counter                                      | Pass |  |
| 3spi5201 | CAN Protocol Error Detection Interface TX error counter / state                                   | Pass |  |
| 3spi5203 | CAN Protocol Error Detection Interface TX error counter / state                                   | Pass |  |
| 3spi5204 | CAN Protocol Error Detection Interface TX error counter / state                                   | Pass |  |
| 3spi5311 | CAN Protocol Error Detection Interface CAN Error States Displaying                                | Pass |  |
| 3spi5312 | CAN Protocol Error Detection Interface CAN Error States Displaying                                | Pass |  |
| 3spi5313 | CAN Protocol Error Detection Interface CAN Error States Displaying                                | Pass |  |
| 3spi5314 | CAN Protocol Error Detection Interface CAN Error States Displaying                                | Pass |  |
| 3spi5315 | CAN Protocol Error Detection Interface CAN Error States Displaying                                | Pass |  |
| 3spi5316 | CAN Protocol Error Detection Interface CAN Error States Displaying                                | Pass |  |
| 3spi5321 | CAN Protocol Error Detection Interface CAN Error Interrupts                                       | Pass |  |
| 3spi5322 | CAN Protocol Error Detection Interface CAN Error Interrupts                                       | Pass |  |
| 3spi5323 | CAN Protocol Error Detection Interface CAN Error Interrupts                                       | Pass |  |
| 3spi5324 | CAN Protocol Error Detection Interface CAN Error Interrupts                                       | Pass |  |
| 3spi5325 | CAN Protocol Error Detection Interface CAN Error Interrupts                                       | Pass |  |
| 3spi5410 | CAN Protocol Error Detection Interface CAN module recovery from CAN Error State "Bus-Off"         | Pass |  |
| 3spi5420 | CAN Protocol Error Detection Interface CAN module recovery from CAN Error State "Bus-Off"         | Pass |  |
| 3spi5501 | CAN Protocol Error Detection Interface Resetting of the CAN module error counter during INIT mode | Pass |  |
| 3spi5502 | CAN Protocol Error Detection Interface Resetting of the CAN module error counter during INIT mode | Pass |  |
| 3spi6101 | Power Save Modes SLEEP Mode and STOP mode transitions   | Pass |  |
| 3spi6102 | Power Save Modes SLEEP Mode and STOP mode transitions   | Pass |  |
| 3spi6103 | Power Save Modes SLEEP Mode and STOP mode transitions   | Pass |  |
| 3spi6104 | Power Save Modes SLEEP Mode and STOP mode transitions   | Pass |  |
| 3spi6105 | Power Save Modes SLEEP Mode and STOP mode transitions   | Pass |  |

## Chapter 4 Detailed Test Results

**Table 4-7: Processor Interface Test Results - SPI Part**

|          |  |      |  |
|----------|--|------|--|
| 3spi6106 | Power Save Modes SLEEP Mode and STOP mode transitions                                  | Pass |  |
| 3spi6200 | Power Save Modes SLEEP Wake-up by CAN bus  | Pass |  |
| 3spi6300 | Power Save Modes STOP mode release   | Pass |  |
| 3spi7101 | CAN Module Special Operational Modes and Diagnosis Utilities Tests in Receiveonly Mode | Pass |  |
| 3spi7102 | CAN Module Special Operational Modes and Diagnosis Utilities Tests in Receiveonly Mode | Pass |  |
| 3spi7103 | CAN Module Special Operational Modes and Diagnosis Utilities Tests in Receiveonly Mode | Pass |  |
| 3spi7104 | CAN Module Special Operational Modes and Diagnosis Utilities Tests in Receiveonly Mode | Pass |  |
| 3spi7105 | CAN Module Special Operational Modes and Diagnosis Utilities Tests in Receiveonly Mode | Pass |  |
| 3spi7106 | CAN Module Special Operational Modes and Diagnosis Utilities Tests in Receiveonly Mode | Pass |  |
| 3spi7107 | CAN Module Special Operational Modes and Diagnosis Utilities Tests in Receiveonly Mode | Pass |  |
| 3spi7108 | CAN Module Special Operational Modes and Diagnosis Utilities Tests in Receiveonly Mode | Pass |  |
| 3spi7201 | CAN Module Special Operational Modes and Diagnosis Utilities Tests in Singleshot Mode  | Pass |  |
| 3spi7202 | CAN Module Special Operational Modes and Diagnosis Utilities Tests in Singleshot Mode  | Pass |  |
| 3spi7204 | CAN Module Special Operational Modes and Diagnosis Utilities Tests in Singleshot Mode  | Pass |  |
| 3spi7301 | CAN Module Special Operational Modes and Diagnosis Utilities Tests in Self-test Mode   | Pass |  |
| 3spi7302 | CAN Module Special Operational Modes and Diagnosis Utilities Tests in Self-test Mode   | Pass |  |
| 3spi8101 | Bus activity status check Bus activity signalling during receive status                | Pass |  |
| 3spi8102 | Bus activity status check Bus activity signalling during receive status                | Pass |  |
| 3spi8103 | Bus activity status check Bus activity signalling during receive status                | Pass |  |
| 3spi8104 | Bus activity status check Bus activity signalling during receive status                | Pass |  |
| 3spi8201 | Bus activity status check Bus activity signalling during transmit status               | Pass |  |
| 3spi8202 | Bus activity status check Bus activity signalling during transmit status               | Pass |  |
| 3spi8203 | Bus activity status check Bus activity signalling during transmit status               | Pass |  |
| 3spi8204 | Bus activity status check Bus activity signalling during transmit status               | Pass |  |
| 3spi8300 | Bus activity status check Special test case  | Pass |  |

## Appendix A Certificate of Authentication from C&S



### Fachhochschule

- University of Applied Sciences -  
communication & systems group  
Prof. Dr.-Ing. W. Lawrenz  
- Director C&S -

Salzdahlumer Strasse 46/48  
D-38302 Wolfenbüttel

## NEC Electronics CAN-Conformance Test System

## Authentication

C&S group is a subdivision of the Fachhochschule Wolfenbüttel. As such C&S group is worldwide recognized as a neutral expert in testing of communication systems such as CAN Transceivers, CAN, CAN Software Drivers, (CAN) Network Management.

### Authentication

NEC is owner of the C&S CAN Conformance Test System and performs tests based on software developed by C&S group. The Test System consist of the following essential parts:

- Test Scripts for tests defined by ISO 16845
- Supervisor Software CCT v2.x with included CAN Reference Model to control and verify the tests
- Software templates for the Upper Tester software

For the CAN Conformance Test Systems and software parts of following NEC devices

#### AFCAN, FCAN, DCAN

a maintenance contract exists between NEC and C&S group.

NEC and C&S group work together within the maintenance contract or dedicated contracts by developing upper tester software for different NEC devices.

This authentication is valid while the maintenance contract between NEC and C&S group for the above-mentioned devices is active.

| Location of the test system 1  | Location of the test system 2  |
|--|--|
| NEC Electronics (Europe) GmbH<br>Arcadiastrasse 10<br>40472 Duesseldorf<br>Germany | NES NEC Software Tohoku<br>Ltd. 10-23, Ichibancho 1-chome Aoba-<br>ku Sendai<br>Miyagi, 9080-0811<br>Japan |

Wolfenbüttel, 2007-Feb-15  
Quote No. 2006-160 R00

  
Fischer, Senior Engineer

  
Roskam, Senior Engineer

The Authentication Certificate is Copyright by C&S.  
For this CAN Conformance Certificate, NEC refers to this authentication.



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[MEMO]

