Software Verification Report for A664 Device Library Test Application

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Revision History

| **Change Order** | **Rev.** | **Rev. Date** | **Change Description** | **Release Date** | **Released By** |
| --- | --- | --- | --- | --- | --- |
|  | 1 | 141111 | Production Release |  |  |
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# Introduction

## Purpose

This document established the software verification report for TBD GE AVIC Civil Avionics Systems Company Limited, hereinafter referred to as GE AVIC.

## Scope

This software test report document describes the test report for A664 Device Library Test Application. The part number of the software that will be tested is TBD. The software versions that will be tested is TBD.

## Revision Level

This is a Pre-Production Release document with the following limitations:

The software identified may not be used for commercial flight, test or certification efforts or documentation. Products that use this software are made into a new product model and are considered non-conformed for formal use.

## Definition of Terms

This paragraph is not applicable to this document.

## Acronyms and Abbreviations

The following acronyms and abbreviations are used throughout this document and are defined here for convenience.

|  |  |
| --- | --- |
| AFDX | Avionics Full Duplex Switched Ethernet |
| IMA | Integrated Modular Avionics |

# Referenced Documents

The following documents of the exact issue shown form a part of this document to the extent specified herein. For those documents showing no date of issue, the latest issue applies.

GE AVIC Civil Avionics Systems Company Limited

|  |  |
| --- | --- |
| TBD | Software Life Cycle Document for the  A664 Device Library Test Application |

# Test Report

## Setup and configuration

Setup and configuration will follow the document “Software Life Cycle Document for the

A664 Device Library Test Application”

## Test execution

Test execution must follow “Software Life Cycle Document for the A664 Device Library Test Application”. A successful execution requires user interaction with a test script.

### Test cases

#### TestAFDXDeviceLibrary001

All test cases in this test execute automatically. The test operator should only run executable file.

#### TestAFDXDeviceLibrary002

Test operator should download and open source code of A664 device Library and perform code inspection against related requirements with expected objectivities in the test cases.

## Test conclusion

Test execution shows fails and passes of some test cases. The software is executed by Alexey Besgodkov (Test Operator). The attached test log in the Appendix A shows actual results.

Test shows the following fails

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **#** | **Test** | **Test Step** | **Failure description** | **Issue type** |
| 1 | TestAFDXDeviceLibrary001 | 1-12, 1-24, 2-27, 2-29 | A664DL returns read data size equals buffer size if data was sent on disabled port. expected 0 | Code/Requirement mismatch |
| 2 | TestAFDXDeviceLibrary001 | 1-27, 1-28 | A664DL receives incorrect data on enabled port after it had been disabled | Code/Requirement mismatch |
| 3 | TestAFDXDeviceLibrary001 | 2-1, 2-5..2-14, 2-16..2-25 | A664DL incorrectly process queuing ports | Code/Requirement mismatch |
| 4 | TestAFDXDeviceLibrary001 | 3-5, 3-11, 3-13 | A664DL incorrectly processes transmit port queue of sub-VL | Code/Requirement mismatch |
| 5 | TestAFDXDeviceLibrary001 | 3-16, 3-17 | The A664 device library has no interface to select transmitter port type | Code/Requirement mismatch |
| 6 | TestAFDXDeviceLibrary001 | 5-15, 5-24, 5-36, 5-39 | A664DL disables channel A together with channel B. And it disables both channels instead one | Code/Requirement mismatch |
| 7 | TestAFDXDeviceLibrary001 | 6-1, 6-2 | The A664 device library has no input interface to disable/enable all open ports | Code/Requirement mismatch |
| 8 | TestAFDXDeviceLibrary001 | 7-1, 7-2 | The A664 device library has no input interface to disable/enable virtual link | Code/Requirement mismatch |
| 9 | TestAFDXDeviceLibrary001 | 8-1, 8-2 | The A664 device library has no input interface to disable end system | Code/Requirement mismatch |
| 10 | TestAFDXDeviceLibrary001 | 9-2 | ARINC 664 Device Library doesn't allow to configure the link speed of ports to 10 Mbps or 100 Mbps on demand | Code/Requirement mismatch |
| 11 | TestAFDXDeviceLibrary001 | 10-2 | Ports speed cannot be configured. ARINC 664 Device Library allows to configure only END system speed | Code/Requirement mismatch |
| 12 | TestAFDXDeviceLibrary001 | 13-1..13-6, 14-1, 14-2 | A664DL doesn't use set skew for sending data | Code/Requirement mismatch |
| 13 | TestAFDXDeviceLibrary001 | 15-11, 15-13, 15-15 | A664DL allows to define invalid TX VLINKS - with incorrect frame size, incorrect VLID, incorrect bag | Code/Requirement mismatch |
| 14 | TestAFDXDeviceLibrary001 | 15-23, 15-25  15-28, 15-31  15-35, 15-39  15-43, 15-46  15-54, 15-57 | A664DL allows to define invalid Sub-VL  A664DL allows to define invalid TX port  A664DL allows to define invalid RX Virtual link  A664DL allows to define invalid RX port  A664DL cannot open device if any previous definitions were incorrect | Code/Requirement mismatch |
| 15 | TestAFDXDeviceLibrary001 | 16-5, 16-10... | A664DL incorrectly process periodic sending | Code/Requirement mismatch |
| 16 | TestAFDXDeviceLibrary001 | 17-9, 17-19 | A664DL hangs per receiving data when EDE time is set | Code/Requirement mismatch |
| 17 | TestAFDXDeviceLibrary002 | 1 | the A664GEIPDeviceLibrary::defineTransmitPort initializes TX port to active state | Code/Requirement mismatch |

# Appendix A: A Test Log

This document includes “TestAFDXDeviceLibrary001\_2014-11-11\_15-00-46.log” and “TestAFDXDeviceLibrary002.log” supplemental data. This document is not complete without mentioned supplemental data.

