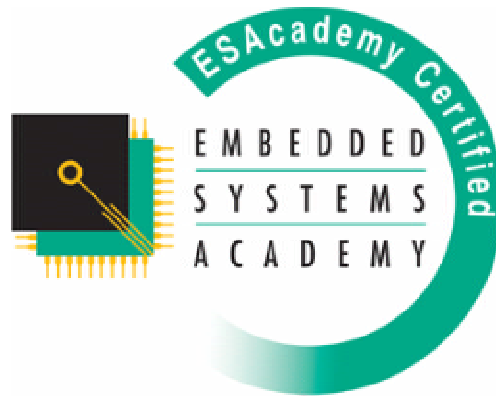


CANopen Conformance Test

Test Report for WD425 implementation with MicroCANopen Plus version 2.25 tested on T89C51CC01 microcontroller

Tested by Olaf Pfeiffer, September 14th, 2004



The WD425 implementation passed the CANopen Conformance Test on Tuesday, September 14th, 2004

Report Details

The code was compiled with the Keil DK8051 compiler system and the hex file burned into an Atmel evaluation board. The node was configured to have node ID 7 and the CAN bps rate used was 125kbit.

Note: This test was made with the official CANopen conformance test tool also used by the CiA (CAN in Automation group) version 2.0.02 from 2002. This tool is the latest available, but it is not up to date with the latest CANopen specifications and thus also tests obsolete functionality and cannot fully comply with the latest variations of CANopen. For example, the official CiA recommendation is to no longer use node guarding, but to use heartbeats instead. However, the conformance test cannot properly handle all tests if node guarding is not implemented – and it is not implemented in this WD425 application.

The EDS file WD425.eds matching the implementation passes the CANopen conformance test. To do so a few PDO system entries (like the inhibit time and the event

time) that are actually read-only have been marked as read-write and set with a default value of zero.

The conformance test is divided into several subtests. The following is a documentation of all errors reported.

SDO Test

No errors reported

PDO Test

No errors reported

Checking the Object Dictionary

This test reports errors for all TPDO communication parameters COB-ID (subindex 1) and Event Time (subindex 5). The values read are not the default values listed in the EDS file.

These errors are acceptable as the conformance test cannot truly handle pre-configured nodes. If the default is changed in the EDS file, then the EDS files does not pass the test. So to past the EDS test the EDS has a default event time of zero. However, the code needs a default event time of 100 to pass the PDO test...

Emergency

No errors reported

Error Control Protocols

Only one error was reported: node guarding not supported.

This error is acceptable as supporting node guarding is not recommended by the CiA.

Synchronization

No errors reported

Other Object Dictionary Entries

No errors reported

<p>The tests in the section “verification of network states and transitions” can only be used with devices that support node guarding and have thus be omitted.</p>

Report Summary

Due to limitations of the test tool itself, not all tests could be executed and not all test executed execute with zero errors. However, as these are limitations of the test tool and not of the device we can clearly state that the WD425 implementation tested passed the official CANopen conformance Test.

As part of the test it was verified that all Object Dictionary entries as published in the Electronic Data Sheet are in fact available within the device and of the right access type.