

EtherCAT DeviceDesigner Infineon XMC4800 EtherCAT Example

Table of Contents

1 Introduction.....	3
2 Prerequisites.....	3
3 Step – by – Step.....	3
3.1 Dave4.....	4
3.2 EtherCAT DeviceDesigner.....	5
4 Using the example.....	8
4.1 Description.....	8
4.2 TwinCAT.....	8

1 Introduction

This document contains a description how to get the Infineon XMC4800 easily working with the emtas EtherCAT DeviceDesigner and Dave4.

2 Prerequisites

The following tools and files are needed to get this UART example working.

- Dave4
(<http://dave.infineon.com/>)
- SSC v5.11 or higher from EtherCAT.org
You need to be a member of the ETG to be allowed to download and use the SSC.
You do not have to extract the SSC, just remember where the downloaded .zip file is saved.
- EtherCAT DeviceDesigner
(Included in this archive or available at <http://www.emtas.de/download/ethercat-devicedesigner>)

3 Step – by – Step

The following guide expects that you have downloaded and installed the Dave4 and the EtherCAT DeviceDesigner. Furthermore it is necessary that the SSC was downloaded.

3.1 Dave4

1. Start Dave4 and import the project.

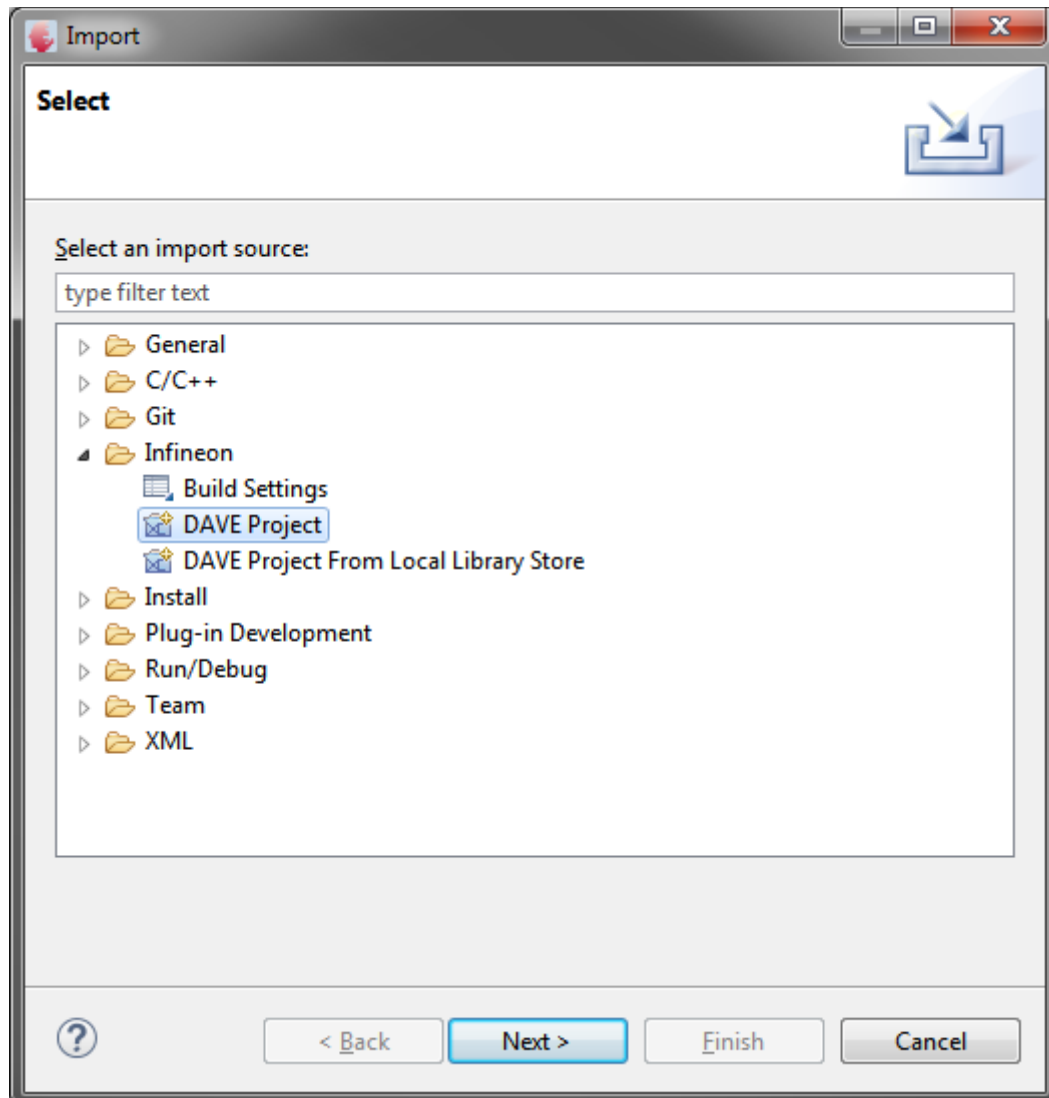


Figure 1: Dave4 - Import project

3.2 EtherCAT DeviceDesigner

1. To generate all necessary files just launch the EtherCAT DeviceDesigner and open project “XMC_4800_EDD.eddp” from the sub folder “EDD” of your imported project.

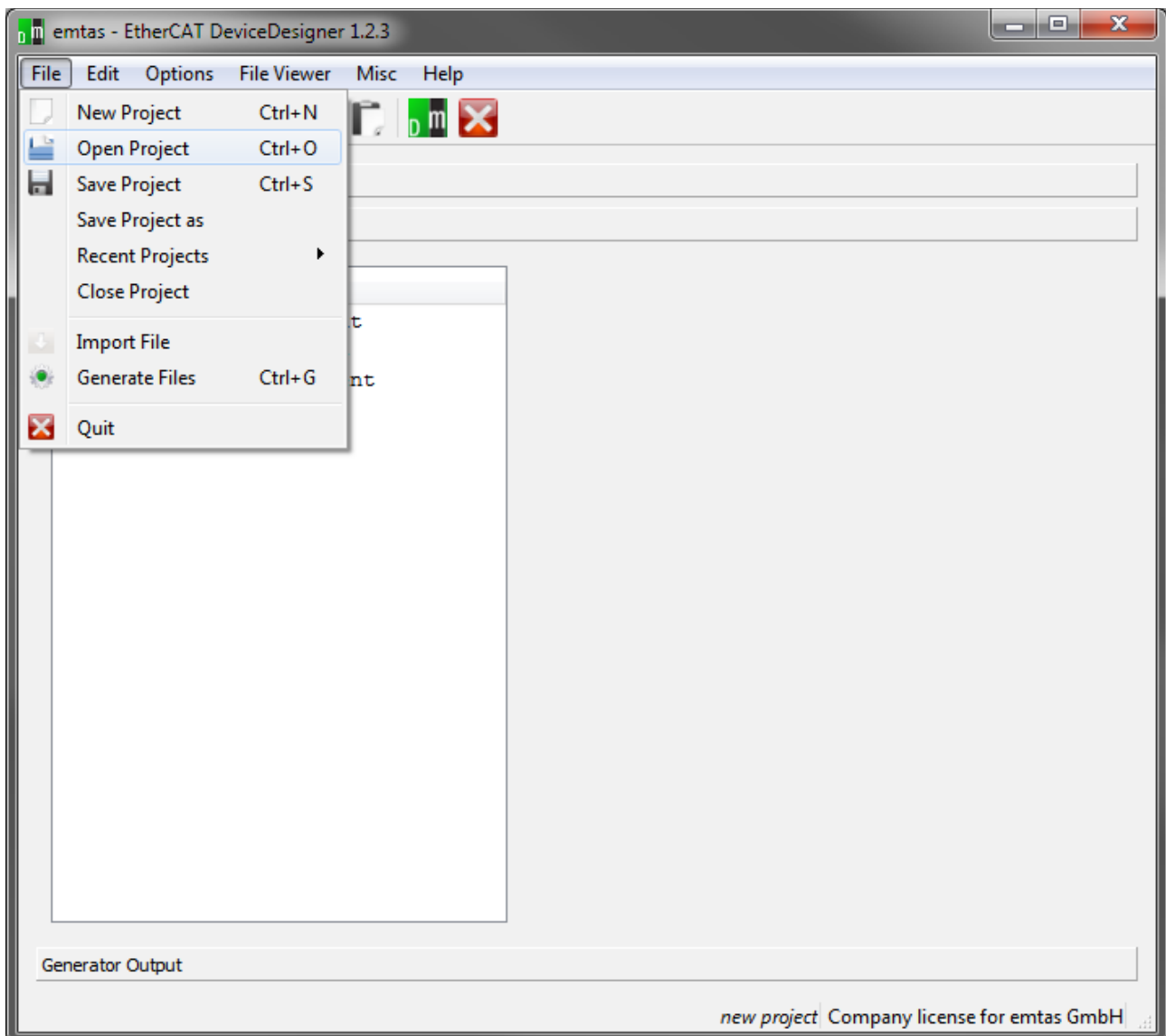


Figure 2: EtherCAT DeviceDesigner Open existing project

2. Select the downloaded SSC zip file via “Options -> Select SCC File” as shown in “Figure 2”. Just point to the .zip file.

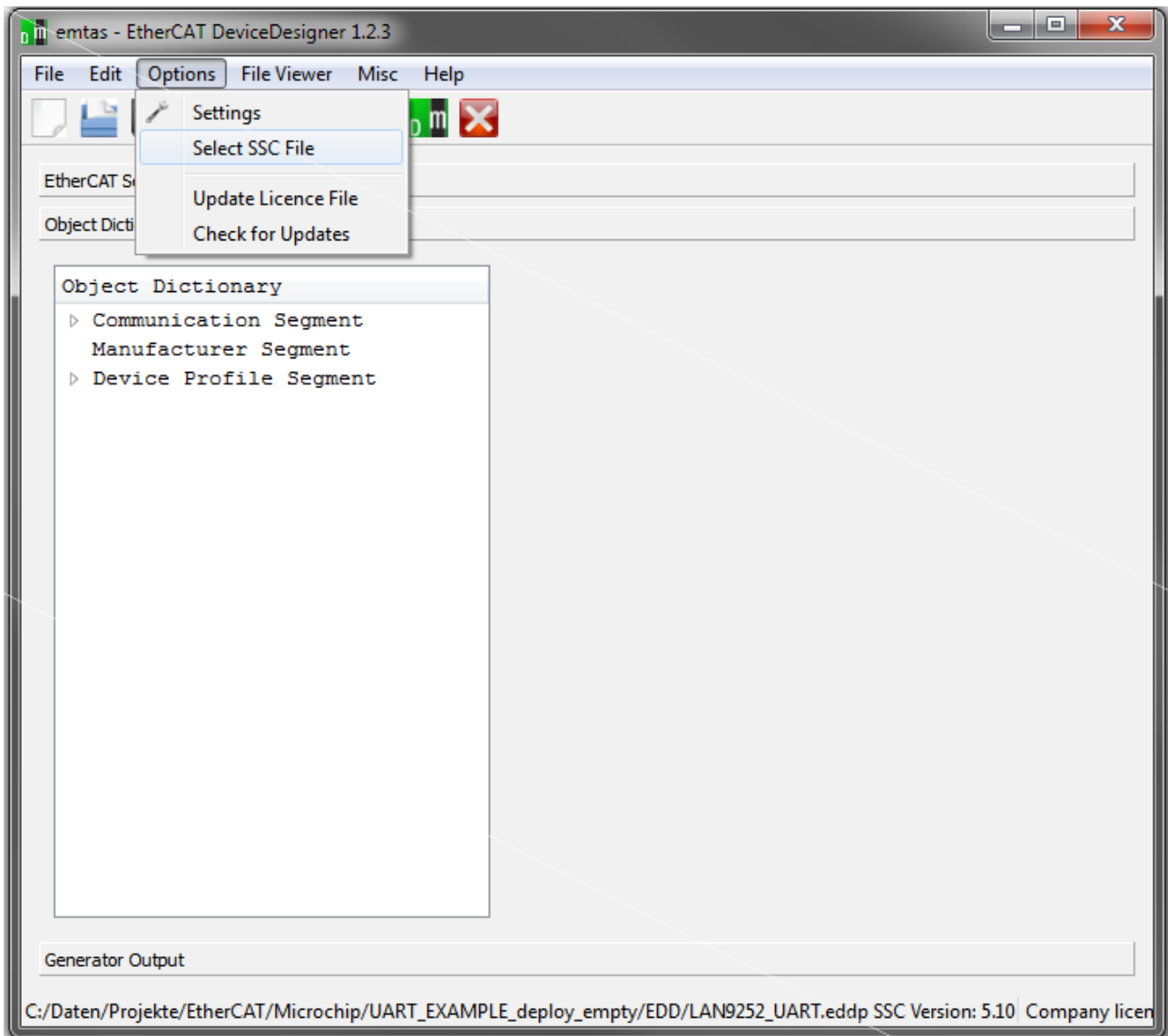


Figure 3: Select the SSC zip file

3. Generate all necessary files by clicking the “Generate files” button.

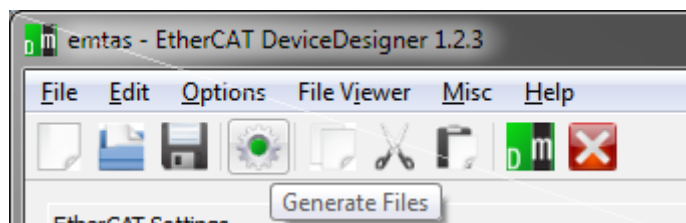


Figure 4: Generate Files

4. Afterwards you should have an EcatStack folder with all necessary files in your project structure.

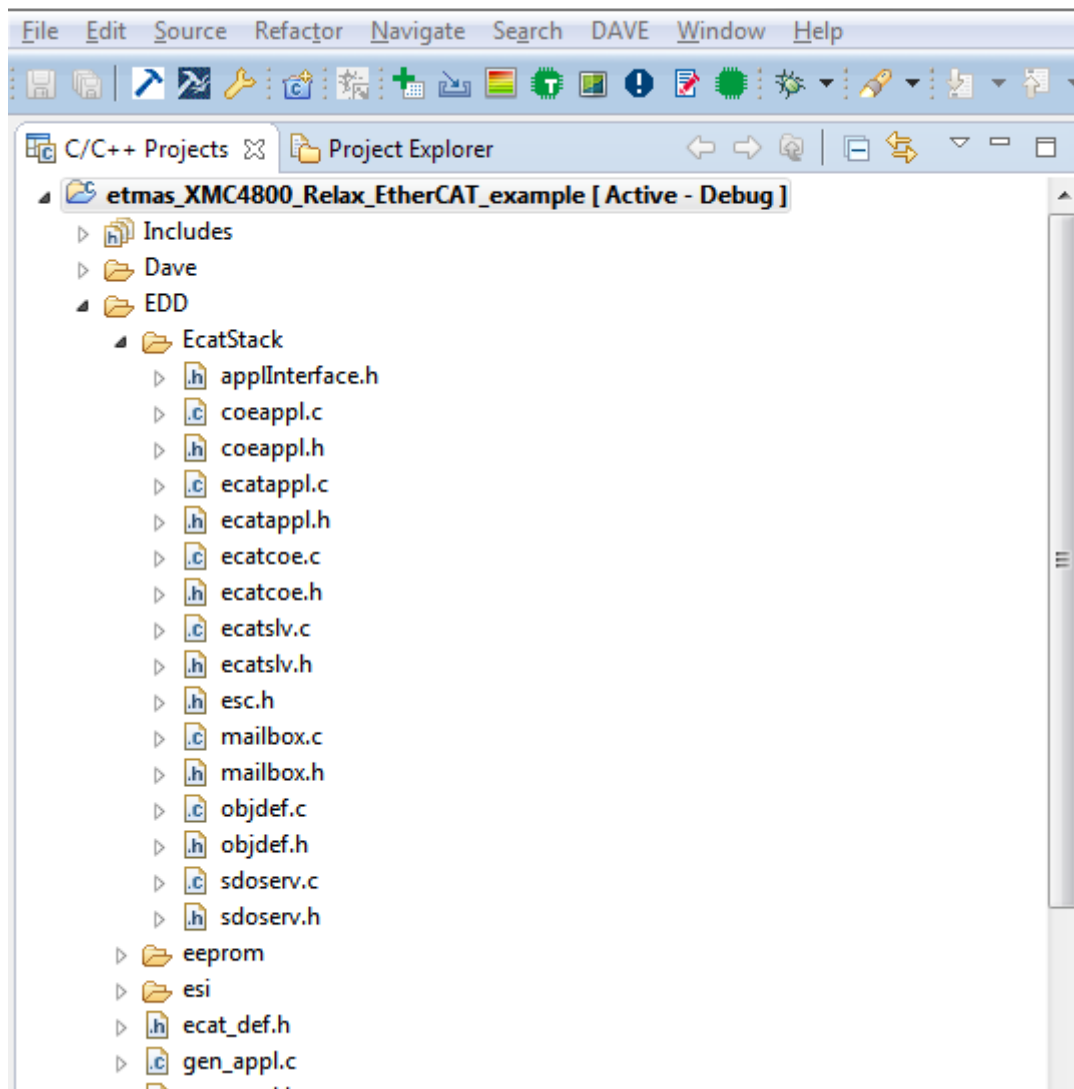


Figure 5: Dave4 - Project structure

5. You can now compile and run this application.

4 Using the example

4.1 Description

With this example you can control the LEDs of the XMC4800 relax kit via EtherCAT and get the state of the user buttons of this board.

4.2 TwinCAT

You have to copy the ESI file (.xml) from the “etmas_XMC4800_Relax_EtherCAT_example\EDD\esi” folder to the XML folder of TwinCAT. Afterwards you can run TwinCAT and scan for new devices.

In this example you have one byte input- and one byte output process data. The output process data is a variable called “led_pattern”.

The 8 LEDs of the relax kit will blink in a different manner depending on the value of “led_pattern”. This is handled in the “userAppl()” function of main.c.

The variable “buttons” will change its value depending on the buttons pressed or not.

Name	Online
buttons	0x02 (2)
WcState	0
State	0x0008 (8)
AdsAddr	C0 A8 03 38 03 01 ...
led_pattern	0x00 (0)

Figure 6: TwinCAT - process data